

Appendix A

Primacy Revision Crosswalk

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SUMMARY OF FEDERAL REQUIREMENT	FEDERAL CITATION	STATE CITATION (DOCUMENT TITLE, PAGE NUMBER, SECTION/PARAGRAPH)	DIFFERENT FROM FED. REQUIREMENT? (EXPLAIN ON SEPARATE SHEET)
SUBPART A—GENERAL			
§141.2 DEFINITIONS			
Combined distribution system	Proposed §141.2		
Consecutive system	Proposed §141.2		
Consecutive system entry point	Proposed §141.2		
Dual sample set	Proposed §141.2		
Finished water	Proposed §141.2		
Locational running annual average	Proposed §141.2		
Stage 2A	Proposed §141.2		
Wholesale system	Proposed §141.2		
SUBPART C—MONITORING AND ANALYTICAL REQUIREMENTS			
§141.23 INORGANIC CHEMICAL SAMPLING AND ANALYTICAL REQUIREMENTS			
13. Fluoride	Proposed table to §141.23(k)(1)		
18. Nitrate	Proposed table to §141.23(k)(1)		
19. Nitrite	Proposed table to §141.23(k)(1)		
20. Orthophosphate	Proposed table to §141.23(k)(1)		

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“Methods for the Determination of Organic and Inorganic Compounds in Drinking Water”, Vol. 1, EPA 815-R-00-014, August 2000. Available at NTIS, PB2000-106981.	Proposed footnote 19 to the Table to §141.23(k)(1)		
Note: The procedures shall be done in accordance with the documents listed below. The incorporation by reference of the following documents listed in footnotes 1–11 and 16–19 was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies of the documents may be obtained from the sources listed below. Information regarding obtaining these documents can be obtained from the Safe Drinking Water Hotline at (800) 426-4791. Documents may be inspected at EPA’s Drinking Water Docket, EPA West, 1301 Constitution Avenue NW, Room B102, Washington, DC 20460 (Telephone: (202) 566-2426); or at the Office of the Federal Register, 800 North Capitol Street, NW, Suite 700, Washington, DC.	Proposed note to table to §141.23(k)(1)		
§141.24 ORGANIC CHEMICALS, SAMPLING AND ANALYTICAL REQUIREMENTS			
Documents containing analytical methods are incorporated by reference	Proposed §141.24(e)(1)		
30. Dalapon	Proposed table to §141.24(e)(1)		
SUBPART D—REPORTING AND RECORD KEEPING			
§141.33 RECORD MAINTENANCE			
Records of microbiological analyses and turbidity analyses made pursuant to this part shall be kept for not less than 5 years.	Proposed §141.33(a)		

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Copies of monitoring plans developed pursuant to this part shall be kept for the same period of time as the records of analyses are required to be kept under paragraph (a) of this section or for 3 years after modification, whichever is longer.	Proposed §141.33(f)		
SUBPART F—MAXIMUM CONTAMINANT LEVEL GOALS¹			
PROPOSED §141.53 MAXIMUM CONTAMINANT LEVEL GOALS FOR DISINFECTION BYPRODUCTS			
Chloroform: 0.07 mg/L Monochloroacetic acid: 0.03 mg/L Trichloroacetic acid: 0.02 mg/L	Proposed §141.53		
SUBPART G—NATIONAL PRIMARY DRINKING WATER REGULATIONS: MAXIMUM CONTAMINANT LEVELS AND MAXIMUM RESIDUAL DISINFECTANT LEVELS			
PROPOSED §141.64 MAXIMUM CONTAMINANT LEVELS FOR DISINFECTION BYPRODUCTS			
<i>Bromate and chlorite.</i> The maximum contaminant levels (MCLs) for bromate and chlorite are as follows: <div> Disinfection byproduct MCL (mg/L) Bromate 0.010 Chlorite 1.0 </div>	Proposed §141.64(a)		
<i>Compliance dates for CWSs and NTNCWSs.</i> Subpart H systems serving 10,000 or more persons must comply with this paragraph (a) beginning January 1, 2002. Subpart H systems serving fewer than 10,000 persons and systems using only ground water not under the direct influence of surface water must comply with this paragraph (a) beginning January 1, 2004.	Proposed §141.64(a)(1)		

¹States need not have corresponding MCLGs.

Draft for Comment Based on the Proposed Stage 2 DBPR

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Best Available Technologies (BATs) for Bromate and Chlorite	Proposed §141.64(a)(2)		
TTHM and HAA5 - Subpart L– RAA compliance	Proposed §141.64(b)(1)		
<p><i>Compliance dates.</i> Subpart H systems serving 10,000 or more persons must comply with this paragraph (b)(1) beginning January 1, 2002 until the date specified for proposed subpart V of this part compliance in proposed §141.620(c). Subpart H systems serving fewer than 10,000 persons and systems using only ground water not under the direct influence of surface water must comply with this paragraph (b)(1) beginning January 1, 2004 until the date specified for proposed subpart V of this part compliance in proposed §141.620(c).</p> <p>Disinfection byproduct MCL (mg/L) Total trihalomethanes (TTHM) 0.080 Haloacetic acids (five) (HAA5) 0.060</p>	Proposed §141.64(b)(1)(i)		
BATs for TTHM and HAA5 Subpart L–RAA compliance	Proposed §141.64(b)(1)(ii)		
TTHM and HAA5 - Stage 2A—LRAA compliance	Proposed §141.64(b)(2)		

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<p><i>Compliance dates.</i> The Stage 2A MCLs for TTHM and HAA5 must be complied with as a locational running annual average (LRAA) at each subpart L of this part compliance monitoring location under proposed §141.136 beginning [3 years after publication of the final rule] until the date specified for proposed subpart V of this part compliance in proposed §141.620(c).</p> <p>Disinfection byproduct MCL(mg/L) Total trihalomethanes (TTHM) 0.120 Haloacetic acids (five) (HAA5) 0.100</p>	Proposed §141.64(b)(2)(i)		
BATs for TTHM and HAA5 Stage 2A–LRAA compliance	Proposed §141.64(b)(2)(ii)		
TTHM and HAA5 - Proposed Subpart V–LRAA compliance	Proposed §141.64(b)(3)		
<p><i>Compliance dates.</i> The proposed subpart V of this part MCLs for TTHM and HAA5 must be complied with as an LRAA at each monitoring location beginning the date specified for proposed subpart V of this part compliance in proposed §141.620(c).</p> <p>Disinfection byproduct MCL (mg/L) Total trihalomethanes (TTHM) 0.080 Haloacetic acids (five) (HAA5) 0.060</p>	Proposed §141.64(b)(3)(i)		
BATs for TTHM and HAA5 Proposed Subpart V compliance – Systems that disinfect their source water	Proposed §141.64(b)(3)(ii)		
BATs for TTHM and HAA5 Proposed Subpart V compliance – Systems that buy disinfected water	Proposed §141.64(b)(3)(iii)		

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<i>Extensions.</i> A system that is installing GAC or membrane technology to comply with the MCLs in paragraphs (a) or (b)(1) of this section may apply to the state for an extension of up to 24 months past January 1, 2002, but not beyond January 1, 2004. In granting the extension, states must set a schedule for compliance and may specify any interim measures that the system must take. Failure to meet the schedule or any interim treatment requirements constitutes a violation of a National Primary Drinking Water Regulation.	Proposed §141.64(c)		
SUBPART L—DISINFECTANT RESIDUALS, DISINFECTION BYPRODUCTS, AND DISINFECTION BYPRODUCT PRECURSORS			
§141.131 ANALYTICAL REQUIREMENTS			
Systems must use only the analytical methods specified in this section, or their equivalent as approved by EPA, to demonstrate compliance with the requirements of this subpart and with the requirements of proposed subparts U and V. These methods are effective for compliance monitoring February 16, 1999, unless a different effective date is specified in this section or by the state.	Proposed §141.131(a)(1)		
Documents containing analytical methods are incorporated by reference	Proposed §141.131(a)(2)		
Systems must measure DBPs by the methods listed in (b)(1)	Proposed §141.131(b)(1)		

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Analysis under this section for disinfection byproducts must be conducted by laboratories that have received certification by EPA or the state, except as specified under paragraph (b)(3) of this section. To receive certification to conduct analyses for the DBP contaminants in proposed §141.64, §141.135, and proposed subparts U and V of this part, the laboratory must:	Proposed §141.131(b)(2)		
Analyze Performance Evaluation (PE) samples that are acceptable to EPA or the state at least once during each consecutive 12 month period by each method for which the laboratory desires certification.	Proposed §141.131(b)(2)(i)		
Achieve quantitative results on the PE sample analyses that are within the acceptance limits in proposed §141.131(b)(2)(ii). Acceptance limits are effective [60 days after date of final rule publication].	Proposed §141.131(b)(2)(ii)		
Report quantitative data for concentrations at least as low as the ones listed proposed §141.131(b)(2)(iii) for all DBP samples analyzed for compliance with proposed §141.64, §141.135, proposed §141.136, and proposed subparts U and V of this part.	Proposed §141.131(b)(2)(iii)		
A party approved by EPA or the state must measure daily chlorite samples at the entrance to the distribution system.	Proposed §141.131(b)(3)		
Systems must measure residual disinfectant concentrations for free chlorine, combined chlorine, total chlorine, and chlorine dioxide by the methods listed in (c)(1)	Proposed §141.131(c)(1)		

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X indicates method is approved for measuring specified disinfectant residual. Free chlorine or total chlorine may be measured for demonstrating compliance with the chlorine MRDL and combined chlorine or total chlorine may be measured for demonstrating compliance with the chloramine MRDL.	Proposed footnote to the table in §141.131(c)(1)		
Methods for measuring bromide	Proposed §141.131(d)(2)		
Methods for measuring TOC	Proposed §141.131(d)(3)		
Methods for measuring DOC	Proposed §141.131(d)(4)(i)		
Methods for measuring UV ²⁵⁴	Proposed §141.131(d)(4)(ii)		
Methods for measuring magnesium	Proposed §141.131(d)(6)		
§141.132 MONITORING REQUIREMENTS			
Reduced monitoring requirements for bromate; effective until [3 years from final rule publication]	Proposed §141.132(b)(3)(ii)(A)		
Reduced monitoring requirements for bromate; effective beginning [3 years from final rule publication]	Proposed §141.132(b)(3)(ii)(B)		
Monitoring requirements for source water TOC, to reduce or remain on reduced TTHM and HAA5 monitoring	Proposed §141.132(e)		

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§141.134 REPORTING AND RECORDKEEPING REQUIREMENTS			
<i>Disinfection byproducts.</i> In addition to reporting required under proposed §141.136(e), systems must report the information specified in the following table:...	Proposed §141.134(b)		
§141.135 TREATMENT TECHNIQUE FOR CONTROL OF DISINFECTION BYPRODUCT (DBP) PRECURSORS			
Alternative compliance criterion: softening that results in removing at least 10 mg/L magnesium hardness (as CaCO ₃), measured monthly according to proposed §141.131(d)(6) and calculated quarterly as a running annual average.	Proposed §141.135(a)(3)(ii)		
PROPOSED §141.136 ADDITIONAL COMPLIANCE REQUIREMENTS FOR STAGE 2A			
<i>Applicability.</i> Any system that takes TTHM and HAA5 compliance samples under this subpart at more than one location in its distribution system is subject to additional MCL requirements beginning [3 years after publication of final rule] until the dates identified for compliance with proposed subpart V in proposed §141.620(c). Any system that takes samples at more than one location must calculate an LRAA for each sampling point and comply with the MCLs of 0.120 mg/L for TTHM and 0.100 mg/L for HAA5 listed in proposed §141.64(b)(2), except as provided for under paragraph (c) of this section.	Proposed §141.136(a)		
Systems must calculate an LRAA each quarter for each monitoring location at which they took TTHM and HAA5 samples under their monitoring plan developed under §141.132(f) by averaging the results of TTHM or HAA5 monitoring at that sample location during the four most recent quarters.	Proposed §141.136(b)(1)		

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Systems required to conduct quarterly monitoring under this subpart must begin to make compliance calculations under paragraph (b) of this section at the end of the fourth calendar quarter that follows the compliance date in paragraph (a) of this section and at the end of each subsequent quarter. Systems required to conduct monitoring at a frequency that is less than quarterly under this subpart must make compliance calculations under paragraph (b) of this section beginning with the first compliance sample taken after the compliance date in paragraph (a) of this section.	Proposed §141.136(b)(2)		
Failure to monitor will be treated as a monitoring violation for each quarter that a monitoring result would be used in an LRAA compliance calculation.	Proposed §141.136(b)(3)		
<i>Consecutive systems.</i> A consecutive system must comply with the TTHM and HAA5 MCLs in proposed §141.64(b)(2) at each monitoring location in its distribution system identified in its monitoring plan developed under §141.132(f).	Proposed §141.136(c)		
<i>Reporting.</i> Systems must submit the compliance calculations and LRAAs under this section as part of the reports required under §141.134.	Proposed §141.136(d)		

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SUBPART O—CONSUMER CONFIDENCE REPORTS			
§141.151 PURPOSE AND APPLICABILITY OF THIS SUBPART			
For the purpose of this subpart, <i>detected</i> means: At or above the levels prescribed by §141.23(a)(4) for inorganic contaminants, at or above the levels prescribed by §141.24(f)(7) for the contaminants listed in §141.61(a), at or above the levels prescribed by §141.24(h)(18) for the contaminants listed in §141.61(c), at or above the levels prescribed by proposed §141.131(b)(2)(iii) for the contaminants or contaminant groups listed in proposed §141.64 and §141.153(d)(iv), and at or above the levels prescribed by §141.25(c) for radioactive contaminants.	Proposed §141.151(d)		
§141.153 CONTENT OF THE REPORTS			
When compliance with the MCL is determined by calculating a running annual average of all samples taken at a sampling point: the highest average of any of the sampling points and the range of all sampling points expressed in the same units as the MCL. For the MCLs for TTHM and HAA5 in proposed §141.64(b)(2) and (3), systems must include the highest LRAA for TTHM and HAA5 and the range of individual sample results for all sampling points expressed in the same units as the MCL. If more than one site exceeds the MCL, the system must include the LRAAs for all sites that exceed the MCL.	Proposed §141.153(d)(4)(iv)(B)		
When compliance with the MCL is determined on a system-wide basis by calculating a running annual average of all samples at all sampling points: the average and range of detection expressed in the same units as the MCL. The system is not required to include the range of individual sample results for the IDSE conducted under proposed subpart U of this part.	Proposed §141.153(d)(4)(iv)(C)		

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SUBPART Q—PUBLIC NOTIFICATION OF DRINKING WATER VIOLATIONS			
APPENDIX A TO SUBPART Q OF PART 141—NPDWR VIOLATIONS AND OTHER SITUATIONS REQUIRING PUBLIC NOTICE			
<p>1. Total trihalomethanes (TTHM)</p> <p>MCL/MRDL/TT Violations Tier of Public Notice Required 2</p> <p>Citation 141.12¹², 141.64(b)²⁰</p> <p>Monitoring and Testing Procedure Violations Tier of Public Notice Required 3</p> <p>Citation 141.30¹², 141.132(a)–(b)²⁰, 141.620–141.630</p>	Appendix A I.G.1		
<p>2. Haloacetic acids (HAA5)</p> <p>MCL/MRDL/TT Violations Tier of Public Notice Required 2</p> <p>Citation 141.64(b)²⁰</p> <p>Monitoring and Testing Procedure Violations Tier of Public Notice Requires 3</p> <p>Citation 141.132(a)–(b)²⁰, 141.620–141.630</p>	Appendix A I.G.2		
12. §§141.12 and 141.30 will no longer apply after December 31, 2003.	Appendix A Endnote 12		

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20. Proposed §141.64(b)(1) and §141.132(a)-(b) apply until proposed §§141.64(b)(3) and 141.620–.630 take effect under the schedule in proposed §141.620(c). Proposed §141.64(b)(2) takes effect on [3 years following final rule publication] and remains in effect until the effective dates for proposed subpart V of this part compliance in the table in proposed §141.620(c).	Appendix A Endnote 20		
APPENDIX B TO SUBPART Q OF PART 141—STANDARD HEALTH EFFECTS LANGUAGE FOR PUBLIC NOTIFICATION			
79. Total trihalomethanes (TTHM) MCLG (mg/L): N/A MCL (mg/L): 0.10/0.120/0.080 ^{18, 19, 23} ...	Appendix B H.79		
80. Haloacetic acids (HAA5) MCLG (mg/L): N/A MCL (mg/L): 0.060/0.100 ^{20, 23} ...	Appendix B H.80		
17. Surface water systems and ground water systems under the direct influence of surface water are regulated under subpart H of 40 CFR 141. Subpart H community and non-transient non-community systems serving ≥10,000 must comply with subpart L DBP MCLs and disinfectant maximum residual disinfectant levels (MRDLs) beginning January 1, 2002. All other community and non-transient non-community systems must comply with subpart L DBP MCLs and disinfectant MRDLs beginning January 1, 2004. Subpart H transient non-community systems serving ≥10,000 that use chlorine dioxide as a disinfectant or oxidant must comply with the chlorine dioxide MRDL beginning January 1, 2002. All other transient non-community systems that use chlorine dioxide as a disinfectant or oxidant must comply with the chlorine dioxide MRDL beginning January 1, 2004.	Appendix B Endnote 17		

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<p>23. Community and non-transient non-community systems must comply with TTHM and HAA5 MCLs of 0.120 mg/L and 0.100 mg/L, respectively (with compliance calculated as an LRAA) beginning [3 years following publication of final rule] until they are required to comply with proposed subpart V TTHM and HAA5 MCLs of 0.080 mg/L and 0.060 mg/L, respectively (with compliance calculated as an LRAA). Community and non-transient non-community systems serving $\geq 10,000$ must comply with proposed subpart V TTHM and HAA5 MCLs (with compliance calculated as an LRAA) beginning [6 years following publication of final rule]. Community and non-transient non-community systems serving $< 10,000$ must comply with proposed subpart V TTHM and HAA5 MCLs (with compliance calculated as an LRAA) beginning [90 months following publication of final rule].</p>	<p>Appendix B Endnote 23</p>		

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PROPOSED SUBPART U—INITIAL DISTRIBUTION SYSTEM EVALUATIONS			
PROPOSED §141.600 GENERAL REQUIREMENTS			
The requirements of proposed subpart U constitute national primary drinking water regulations. The regulations in this proposed subpart establish monitoring and other requirements for identifying compliance monitoring locations to be used for determining compliance with maximum contaminant levels for total trihalomethanes (TTHM) and haloacetic acids (five)(HAA5) in proposed subpart V through the use of an Initial Distribution System Evaluation (IDSE). IDSEs are studies, used in conjunction with subpart L compliance monitoring, to identify and select proposed subpart V compliance monitoring sites that represent high TTHM and HAA5 levels throughout the distribution system. The studies will be based on system-specific monitoring as provided in proposed §141.602. As an alternative, you may use other system-specific data that provide equivalent or better information on site selection for monitoring under proposed subpart V as provided for in proposed §141.603(a).	Proposed §141.600(a)		

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<i>Applicability.</i> You are subject to these requirements if your system is a community water system that adds a primary or residual disinfectant other than ultraviolet light or delivers water that has been treated with a primary or residual disinfectant other than ultraviolet light or if your system is a nontransient noncommunity water system that serves at least 10,000 people and adds a primary or residual disinfectant other than ultraviolet light or delivers water that has been treated with a primary or residual disinfectant other than ultraviolet light. You must conduct an Initial Distribution System Evaluation (IDSE), unless you meet the 40/30 certification criteria in proposed §141.603(b) or the state has granted a very small system waiver for the IDSE or you meet the criteria defined by the state for a very small system waiver under proposed §141.603(c). If you have a very small system waiver for the IDSE under proposed §141.603(c), you are not required to submit an IDSE report. All other systems must submit an IDSE report, even if you meet the 40/30 certification criteria in proposed §141.603(c).	Proposed §141.600(b)		
<i>Schedule.</i> You must comply with the Initial Distribution System Evaluation (IDSE) on the schedule in the table in proposed §141.600(c).	Proposed §141.600(c)		
<i>Violations.</i> You must comply with specific monitoring and reporting requirements. You must prepare for, conduct, analyze, and submit your IDSE report no later than the date specified in proposed §141.600(c). Failure to conduct a required IDSE or to submit a required IDSE report by the date specified in paragraph (c) of this section is a monitoring violation. If you do not submit your IDSE report to your state, or if you submit the report after the specified date, you must comply with any additional state-specified requirements, which may include conducting another IDSE.	Proposed §141.600(d)		

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PROPOSED §141.601 INITIAL DISTRIBUTION SYSTEM EVALUATION (IDSE) REQUIREMENTS			
You must conduct an IDSE that meets the requirements in proposed §141.602 or proposed §141.603(a) or meet the 40/30 certification criteria in proposed §141.603(b) or have received a very small system waiver for the IDSE from the state under proposed §141.603(c). If you do not take the full complement of TTHM and HAA5 compliance samples required of a system with your population and source water under subpart L, but are required to conduct an IDSE under this proposed subpart, you are not eligible for either the 40/30 certification in proposed §141.603(b) or the very small system waiver in proposed §141.603(c) and must conduct an IDSE that meets the requirements in proposed §141.602 or proposed §141.603(a).	Proposed §141.601(a)		
You may use any alternative listed in the table in proposed §141.601(b) for which you qualify.	Proposed §141.601(b)		
IDSE results will not be used for the purpose of determining compliance with MCLs in proposed §141.64.	Proposed §141.601(c)		
You may consider multiple wells drawing water from a single aquifer as one treatment plant for determining the minimum number of TTHM and HAA5 samples required, with state approval accordance with criteria developed under §142.16(h)(5) of this chapter. State approvals made under §141.132(a)(2) to treat multiple wells drawing water from a single aquifer as one treatment plant remain in effect unless withdrawn by the state.	Proposed §141.601(d)(1)		

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If you are a consecutive system, you must comply with the IDSE requirements in this proposed subpart based on whether you buy some or all of your water from another PWS during 2004 for systems with an IDSE report due [24 months after publication of final rule] or during 2006 for systems with an IDSE report due [48 months after publication of final rule]. A consecutive system that buys some, but not all, of its finished water during the period identified in this paragraph must treat each consecutive system entry point from a wholesale system as a treatment plant for the consecutive system for the purpose of determining monitoring requirements of this proposed subpart if water is delivered from the wholesale system to the consecutive system for at least 60 consecutive days through any of the consecutive system entry points. A consecutive system that buys all its finished water during the period identified in this paragraph must monitor based on population and source water for the purpose of determining monitoring requirements of this proposed subpart.	Proposed §141.601(d)(2)		
You may request that the state allow multiple consecutive system entry points from a single wholesale system to a single consecutive system to be considered one treatment plant.	Proposed §141.601(d)(2)(i)		
In the request to the state for approval of multiple consecutive system entry points to be considered one treatment plant, you must demonstrate that factors such as relative locations of entry points, detention times, sources, and the presence of treatment (such as corrosion control or booster disinfection) will have a minimal differential effect on TTHM and HAA5 formation associated with individual entry points.	Proposed §141.601(d)(2)(ii)		

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PROPOSED §141.602 IDSE MONITORING			
You must conduct IDSE monitoring for each treatment plant as indicated in the table in proposed §141.602(a). You must collect dual sample sets at each monitoring location. One sample in the set must be analyzed for TTHM. The other sample in the set must be analyzed for HAA5. If approved by the state under the provisions of proposed §141.601(d)(1), you may consider multiple wells drawing water from the same aquifer to be one treatment plant for the purpose of determining monitoring requirements. You must conduct one monitoring period during the peak historical month for TTHM levels or HAA5 levels or the month of warmest water temperature. You must review available compliance, study, or operational data to determine the peak historical month for TTHM or HAA5 levels or warmest water temperature.	Proposed §141.602(a)		
IDSE monitoring for consecutive systems that buy all their water	Proposed §141.602(b)		
You must prepare an IDSE monitoring plan prior to starting IDSE monitoring and implement that plan. In the plan, you must identify specific monitoring locations and dates that meet the criteria in paragraphs (a) and (b) of this section, as applicable.	Proposed §141.602(c)		
PROPOSED §141.603 ALTERNATIVES OTHER THAN IDSE MONITORING.			
In lieu of IDSE monitoring under proposed §141.602, you may use one of the alternatives identified in paragraphs (a) through (c) of this section for which you qualify to comply with this proposed subpart.	Proposed §141.603		

SUMMARY OF FEDERAL REQUIREMENT	FEDERAL CITATION	STATE CITATION (DOCUMENT TITLE, PAGE NUMBER, SECTION/PARAGRAPH)	DIFFERENT FROM FED. REQUIREMENT? (EXPLAIN ON SEPARATE SHEET)
<i>System-specific study.</i> You may perform an IDSE study based on system-specific monitoring or system-specific data if such a study identifies equivalent or superior monitoring sites representing high TTHM and HAA5 levels as would be identified by IDSE monitoring under proposed §141.602. You must submit an IDSE report that complies with proposed §141.604.	Proposed §141.603(a)		
<i>40/30 certification.</i> In order to qualify for the 40/30 certification, you must not have had any TTHM or HAA5 monitoring violations during the periods specified in paragraphs (b)(1) through (b)(3) of this section.	Proposed §141.603(b)		
You are not required to comply with proposed §141.602 or paragraph (a) of this section if you certify to your state that all compliance samples under subpart L in 2002 and 2003 (for subpart H systems serving $\geq 10,000$ people) or in 2004 and 2005 (for systems serving $< 10,000$ people that are not required to submit an IDSE report by [24 months following publication of final rule]) were ≤ 0.040 mg/L for TTHM and ≤ 0.030 mg/L for HAA5.	Proposed §141.603(b)(1)		
If you are a ground water system serving $\geq 10,000$ people, you are not required to comply with proposed §141.602 or paragraph (a) of this section if you certify to your state that all TTHM samples taken under §141.30 in 2003 are ≤ 0.040 mg/L and that all TTHM and HAA5 compliance samples taken under subpart L during 2004 are ≤ 0.040 mg/L and ≤ 0.030 mg/L, respectively.	Proposed §141.603(b)(2)		

SUMMARY OF FEDERAL REQUIREMENT	FEDERAL CITATION	STATE CITATION (DOCUMENT TITLE, PAGE NUMBER, SECTION/PARAGRAPH)	DIFFERENT FROM FED. REQUIREMENT? (EXPLAIN ON SEPARATE SHEET)
If you are a consecutive system serving <10,000 required to submit an IDSE report by [24 months following publication of final rule], you are not required to comply with proposed §141.602 or paragraph (a) of this section if you certify to your state that all TTHM and HAA5 compliance samples taken under subpart L during 2004 are ≤0.040 mg/L and ≤0.030 mg/L, respectively.	Proposed §141.603(b)(3)		
You must submit an IDSE report that complies with proposed §141.604 and contains the required certification.	Proposed §141.603(b)(4)		
<i>Very small system waiver.</i> If you serve fewer than 500 people, the state may waive IDSE monitoring if the state determines that the TTHM and HAA5 monitoring site for each plant under §141.132 is sufficient to represent both the highest TTHM and the highest HAA5 concentration in your distribution system. If your IDSE monitoring is waived, you are not required to submit an IDSE report. You must monitor under proposed subpart V during the same month and at the same location as used for compliance sampling in subpart L.	Proposed §141.603(c)		
PROPOSED §141.604 IDSE REPORTS			
You must submit your IDSE report to the state according to the schedule in proposed §141.600(c).	Proposed §141.604		
If you complied by meeting the provisions of proposed §§141.602 or 141.603(a), your IDSE report must include the elements required in paragraphs (a)(1) through (a)(3) of this section.	Proposed §141.604(a)		

SUMMARY OF FEDERAL REQUIREMENT	FEDERAL CITATION	STATE CITATION (DOCUMENT TITLE, PAGE NUMBER, SECTION/PARAGRAPH)	DIFFERENT FROM FED. REQUIREMENT? (EXPLAIN ON SEPARATE SHEET)
Your report must include all TTHM and HAA5 analytical results from subpart L compliance monitoring conducted during the period of the IDSE presented in a tabular or spreadsheet format acceptable to the state. Your report must also include a schematic of your distribution system, with results, location, and date of all IDSE monitoring, system-specific study monitoring, and subpart L compliance samples noted.	Proposed §141.604(a)(1)		
If you conducted IDSE monitoring under proposed §141.602, your report must include all IDSE TTHM and HAA5 analytical results presented in a tabular or spreadsheet format acceptable to the state. Your report must also include all additional data you relied on to justify IDSE monitoring site selection, plus your original monitoring plan developed under proposed §141.602(c) and an explanation of any deviations from that plan.	Proposed §141.604(a)(2)		
If you used the system-specific study alternative in proposed §141.603(a), your report must include the basis (studies, reports, data, analytical results, modeling) by which you determined that the recommended proposed subpart V monitoring sites representing high TTHM and HAA5 levels are comparable or superior to those that would otherwise have been identified by IDSE monitoring under proposed §141.602. Your report must also include an analysis that demonstrates that your system-specific study characterized expected TTHM and HAA5 levels throughout your entire distribution system.	Proposed §141.604(a)(3)		

SUMMARY OF FEDERAL REQUIREMENT	FEDERAL CITATION	STATE CITATION (DOCUMENT TITLE, PAGE NUMBER, SECTION/PARAGRAPH)	DIFFERENT FROM FED. REQUIREMENT? (EXPLAIN ON SEPARATE SHEET)
If you meet the 40/30 certification criteria in proposed §141.603(b), your IDSE report must include all TTHM and HAA5 analytical results from compliance monitoring used to qualify for the 40/30 certification and a schematic of your distribution system (with results, location, and date of all compliance samples noted). You must also include results of those compliance samples taken after the period used to qualify for the 40/30 certification for state review.	Proposed §141.604(b)		
Your IDSE report must include your recommendations and justification for where and during what month(s) TTHM and HAA5 monitoring for proposed subpart V should be conducted. You must base your recommendations on the criteria in proposed §141.605. Your IDSE report must also include the population served; system type (subpart H or ground water); whether your system is a consecutive system; and, if you conducted plant-based monitoring, the number of treatment plants and consecutive system entry points.	Proposed §141.604(c)		
<i>Recordkeeping.</i> You must retain a complete copy of your IDSE report submitted under proposed §141.604 for 10 years after the date that you submitted your IDSE report. If the state modifies the monitoring requirements that you recommended in your IDSE report or if the state approves alternative monitoring sites, you must keep a copy of the state's notification on file for 10 years after the date of the state's notification. You must make the IDSE report and any state notification available for review by the state or the public.	Proposed §141.604(d)		

Draft for Comment Based on the Proposed Stage 2 DBPR

SUMMARY OF FEDERAL REQUIREMENT	FEDERAL CITATION	STATE CITATION (DOCUMENT TITLE, PAGE NUMBER, SECTION/PARAGRAPH)	DIFFERENT FROM FED. REQUIREMENT? (EXPLAIN ON SEPARATE SHEET)
PROPOSED §141.605 SUBPART V MONITORING LOCATION RECOMMENDATIONS TO THE STATE			
Subpart H systems serving at least 10,000 people	Proposed §141.605(a)(1) - §141.605(a)(5)		
All groundwater systems and subpart H systems serving fewer than 10,000 people	Proposed §141.605(b)		
Systems that qualify for the 40/30 certification	Proposed §141.605(c)		
Consecutive systems that buy some, but not all, of their finished water	Proposed §141.605(d)		
Consecutive systems that buy all their finished water	Proposed §141.605(e)(1) - §141.605(e)(4)		
You must schedule samples during the peak historical month for TTHM and HAA5 concentration, unless the state approves another month. Once you have identified the peak historical month, and if you are required to conduct routine monitoring at least quarterly, you must schedule proposed subpart V compliance monitoring at a regular frequency of approximately every 90 days or fewer.	Proposed §141.605(f)		

SUMMARY OF FEDERAL REQUIREMENT	FEDERAL CITATION	STATE CITATION (DOCUMENT TITLE, PAGE NUMBER, SECTION/PARAGRAPH)	DIFFERENT FROM FED. REQUIREMENT? (EXPLAIN ON SEPARATE SHEET)
PROPOSED SUBPART V—STAGE 2B DISINFECTION BYPRODUCTS REQUIREMENTS			
PROPOSED §141.620 GENERAL REQUIREMENTS			
The requirements of proposed subpart V constitute national primary drinking water regulations. These regulations establish requirements for control of certain disinfection byproducts that supercede some requirements in subpart L and that are in addition to other requirements that are currently required under subpart L of this part. The regulations in this proposed subpart establish monitoring and other requirements for achieving compliance with maximum contaminant levels for total trihalomethanes (TTHM) and haloacetic acids (five)(HAA5).	Proposed §141.620(a)		
<i>Applicability.</i> You are subject to these requirements if your system is a community water system or nontransient noncommunity water system that adds a primary or residual disinfectant other than ultraviolet light or delivers water that has been treated with a primary or residual disinfectant other than ultraviolet light.	Proposed §141.620(b)		
<i>Schedule.</i> You must comply with the requirements in this proposed subpart on the schedule in the table in proposed §141.620(c)	Proposed §141.620(c)		
<i>Monitoring and compliance.</i> You must monitor at sampling locations identified in your monitoring plan developed under proposed §141.622. To determine compliance with proposed subpart V MCLs, you must calculate LRAAs for TTHM and HAA5 using monitoring results collected under this proposed subpart. If you fail to complete four consecutive quarters of monitoring, you must calculate compliance with the MCL based on an average of the available data from the most recent four quarters.	Proposed §141.620(d)		

SUMMARY OF FEDERAL REQUIREMENT	FEDERAL CITATION	STATE CITATION (DOCUMENT TITLE, PAGE NUMBER, SECTION/PARAGRAPH)	DIFFERENT FROM FED. REQUIREMENT? (EXPLAIN ON SEPARATE SHEET)
<i>Violations.</i> You must comply with specific monitoring and reporting requirements. Failure to monitor in accordance with the monitoring plan required under proposed §141.622 is a monitoring violation. Failure to monitor will also be treated as a monitoring violation for the entire period covered by an LRAA compliance calculation for the proposed subpart V MCLs in proposed §141.64(b)(3).	Proposed §141.620(e)		
You may consider multiple wells drawing water from a single aquifer as one treatment plant for determining the minimum number of TTHM and HAA5 samples required, with state approval accordance with criteria developed under §142.16(h)(5) of this chapter. Approvals made under §141.132(a)(2) and proposed §141.601(d) remain in effect unless withdrawn by the state.	Proposed §141.620(f)(1)		
<i>Consecutive systems.</i> For the purposes of this proposed subpart, you must determine whether you buy all or some of your water based on your categorization for the IDSE under proposed subpart U, unless otherwise directed the state. If you were not categorized under proposed subpart U, you must determine whether you buy all or some of your water based on your categorization during 2005, unless otherwise directed by the state.	Proposed §141.620(f)(2)		
For the purposes of determining monitoring requirements of this proposed subpart, each consecutive system entry point from a wholesale system to a consecutive system that buys some, but not all, of its finished water is considered a treatment plant for that consecutive system.	Proposed §141.620(f)(3)		
You may request that the state allow multiple consecutive system entry points from a single wholesale system to a single consecutive system to be considered one treatment plant.	Proposed §141.620(f)(3)(i)		

SUMMARY OF FEDERAL REQUIREMENT	FEDERAL CITATION	STATE CITATION (DOCUMENT TITLE, PAGE NUMBER, SECTION/PARAGRAPH)	DIFFERENT FROM FED. REQUIREMENT? (EXPLAIN ON SEPARATE SHEET)
In the request to the state for approval of multiple consecutive system entry points to be considered one treatment plant, you must demonstrate that factors such as relative locations of entry points, detention times, sources, and the presence of treatment (such as corrosion control or booster disinfection) will have a minimal differential effect on TTHM and HAA5 formation associated with individual entry points.	Proposed §141.620(f)(3)(ii)		
PROPOSED §141.621 ROUTINE MONITORING			
You must monitor at the locations and frequencies listed in the table in proposed §141.621(a)	Proposed §141.621(a)		
You must begin monitoring at the locations you have recommended in your IDSE report submitted under proposed §141.604 following the schedule in proposed §141.620(c), unless the state requires other locations or additional locations after its review. If you have received a very small system waiver under proposed §141.603(c), you must monitor at the location(s) identified in your monitoring plan in §141.132(f), updated as required by proposed §141.622.	Proposed §141.621(b)		
You must use an approved method listed in proposed §141.131 for TTHM and HAA5 analyses in this proposed subpart. Analyses must be conducted by laboratories that have received certification by EPA or the state as specified in proposed §141.131.	Proposed §141.621(c)		
PROPOSED §141.622 SUBPART V MONITORING PLAN			

SUMMARY OF FEDERAL REQUIREMENT	FEDERAL CITATION	STATE CITATION (DOCUMENT TITLE, PAGE NUMBER, SECTION/PARAGRAPH)	DIFFERENT FROM FED. REQUIREMENT? (EXPLAIN ON SEPARATE SHEET)
You must develop and implement a monitoring plan to be kept on file for state and public review. You may comply by updating the monitoring plan developed under §141.132(f) no later than the date identified in proposed §141.620(c) for proposed subpart V compliance. If you have received a very small system waiver under proposed §141.603(c), you must comply by updating the monitoring plan developed under §141.132(f) no later than the date identified in proposed §141.620(c) for proposed subpart V compliance. The monitoring plan must contain the elements in paragraphs (a)(1) through (a)(5) of this section:	Proposed §141.622(a)		
Monitoring locations;	Proposed §141.622(a)(1)		
Monitoring dates;	Proposed §141.622(a)(2)		
Compliance calculation procedures;	Proposed §141.622(a)(3)		
Monitoring plans for any other systems in the combined distribution system if monitoring requirements have been modified based on data from other systems; and	Proposed §141.622(a)(4)		
Any permits, contracts, or agreements with third parties (including other PWSs, laboratories, and state agencies) to sample, analyze, report, or perform any other system requirement in this proposed subpart.	Proposed §141.622(a)(5)		
The monitoring plan will reflect the recommendations of the IDSE report required under proposed subpart U, along with any state-mandated modifications. The state must approve any monitoring sites for which you are required to provide a rationale in your IDSE report by proposed §141.605(a)(4).	Proposed §141.622(b)		

SUMMARY OF FEDERAL REQUIREMENT	FEDERAL CITATION	STATE CITATION (DOCUMENT TITLE, PAGE NUMBER, SECTION/PARAGRAPH)	DIFFERENT FROM FED. REQUIREMENT? (EXPLAIN ON SEPARATE SHEET)
If you are a subpart H system serving more than 3,300 people, you must submit a copy of your monitoring plan to the state prior to the date you are required to comply with the monitoring plan.	Proposed §141.622(c)		
You may modify your monitoring plan to reflect changes in treatment, distribution system operations and layout (including new service areas), or other factors that may affect TTHM or HAA5 formation. If you change monitoring locations, you must replace locations with the lowest LRAA and notify the state how new sites were selected as part of the next report due under proposed §141.630. The state may also require modifications in your monitoring plan.	Proposed §141.622(d)		
PROPOSED §141.623 REDUCED MONITORING			
<i>Systems other than consecutive systems that buy all their water.</i> You may reduce monitoring by meeting the criteria in the table in proposed §141.623(a) at all treatment plants in the system. You may only use data collected under the provisions of this proposed subpart or subpart L of this part to qualify for reduced monitoring.	Proposed §141.623(a)		
<i>Consecutive systems that buy all their water.</i> You may reduce monitoring to the level specified in the table in proposed §141.623(b) if the LRAA is ≤ 0.040 mg/L for TTHM and ≤ 0.030 mg/L for HAA5 at all monitoring locations. You may only use data collected under the provisions of this proposed subpart or subpart L of this part to qualify for reduced monitoring.	Proposed §141.623(b)		

SUMMARY OF FEDERAL REQUIREMENT	FEDERAL CITATION	STATE CITATION (DOCUMENT TITLE, PAGE NUMBER, SECTION/PARAGRAPH)	DIFFERENT FROM FED. REQUIREMENT? (EXPLAIN ON SEPARATE SHEET)
You may remain on reduced monitoring as long as the TTHM LRAA ≤ 0.040 mg/L and the HAA5 LRAA ≤ 0.030 mg/L at each monitoring location (for systems with quarterly monitoring) or each TTHM sample ≤ 0.060 mg/L and each HAA5 sample ≤ 0.045 mg/L (for systems with annual or less frequent monitoring). In addition, the source water annual average TOC level, before any treatment, must be ≤ 4.0 mg/L at each treatment plant treating surface water or ground water under the direct influence of surface water, based on monitoring conducted under either §141.132(d) or proposed §141.132(e). If the LRAA at any location exceeds either 0.040 mg/L for TTHM or 0.030 mg/L for HAA5 or if the annual (or less frequent) sample at any location exceeds either 0.060 mg/L for TTHM or 0.045 mg/L for HAA5, or if the source water annual average TOC level, before any treatment, > 4.0 mg/L at any treatment plant treating surface water or ground water under the direct influence of surface water, the system must resume routine monitoring under proposed §141.621 for all treatment plants or begin increased monitoring for all treatment plants if proposed §141.625 applies.	Proposed §141.623(c)		
The state may return your system to routine monitoring at the state's discretion.	Proposed §141.623(d)		
PROPOSED §141.624 ADDITIONAL REQUIREMENTS FOR CONSECUTIVE SYSTEMS			
If you are a consecutive system that does not add a disinfectant but delivers water that has been disinfected with [a disinfectant] other than ultraviolet light, you must comply with monitoring requirements for chlorine and chloramines in §141.132(c)(1) and the compliance requirements in §141.133(c)(1) beginning [3 years after publication of final rule] and report monitoring results under §141.134(c), unless required earlier by the state.	Proposed §141.624		

SUMMARY OF FEDERAL REQUIREMENT	FEDERAL CITATION	STATE CITATION (DOCUMENT TITLE, PAGE NUMBER, SECTION/PARAGRAPH)	DIFFERENT FROM FED. REQUIREMENT? (EXPLAIN ON SEPARATE SHEET)
PROPOSED §141.625 CONDITIONS REQUIRING INCREASED MONITORING			
If you are required to monitor at a particular location yearly or less frequently than yearly under proposed §§141.621 or 141.623, you must increase monitoring to dual sample sets once per quarter (taken approximately every 90 days) at all locations if either the annual (or less frequent) TTHM sample >0.080 mg/L or the annual (or less frequent) HAA5 sample >0.060 mg/L at any location.	Proposed §141.625(a)		
You are not in violation of the MCL until the LRAA calculated based on four consecutive quarters of monitoring (or the LRAA calculated based on fewer than four quarters of data if the MCL would be exceeded regardless of the monitoring results of subsequent quarters) exceeds the proposed subpart V MCLs in proposed §141.64(b)(3). You are in violation of the monitoring requirements for each quarter that a monitoring result would be used in calculating an LRAA if you fail to monitor.	Proposed §141.625(b)		
You may return to routine monitoring once you have conducted increased monitoring for at least four consecutive quarters and the LRAA for every location is ≤ 0.060 mg/L for TTHM and ≤ 0.045 mg/L for HAA5.	Proposed §141.625(c)		

SUMMARY OF FEDERAL REQUIREMENT	FEDERAL CITATION	STATE CITATION (DOCUMENT TITLE, PAGE NUMBER, SECTION/PARAGRAPH)	DIFFERENT FROM FED. REQUIREMENT? (EXPLAIN ON SEPARATE SHEET)
PROPOSED §141.626 SIGNIFICANT EXCURSIONS			
If a significant excursion occurs, you must conduct a significant excursion evaluation and prepare a written report of the evaluation no later than 90 days after being notified of the analytical result that shows the significant excursion. You must discuss the evaluation with the state no later than the next sanitary survey for your system. Your evaluation must include an examination of distribution system operational practices that may contribute to TTHM and HAA5 formation (such as flushing programs and storage tank operations and excess capacity) and how these practices may be modified to reduce TTHM and HAA5 levels.	Proposed §141.626		
PROPOSED §141.627 REQUIREMENTS FOR REMAINING ON REDUCED TTHM AND HAA5 MONITORING BASED ON SUBPART L RESULTS			
You may remain on reduced monitoring after the dates identified in proposed §141.620(c) for compliance with this proposed subpart only if you qualify for a 40/30 certification under proposed §141.603(b) or have received a very small system waiver under proposed §141.603(c), plus you meet the reduced monitoring criteria in proposed §141.623(c), and you do not change or add monitoring locations from those used for compliance monitoring under subpart L. If your monitoring locations under this proposed subpart differ from your monitoring locations under subpart L, you may not remain on reduced monitoring after the dates identified in proposed §141.620(c) for compliance with this proposed subpart.	Proposed §141.627		

SUMMARY OF FEDERAL REQUIREMENT	FEDERAL CITATION	STATE CITATION (DOCUMENT TITLE, PAGE NUMBER, SECTION/PARAGRAPH)	DIFFERENT FROM FED. REQUIREMENT? (EXPLAIN ON SEPARATE SHEET)
PROPOSED §141.628 REQUIREMENTS FOR REMAINING ON INCREASED TTHM AND HAA5 MONITORING BASED ON SUBPART L RESULTS			
If you were on increased monitoring under subpart L, you must remain on increased monitoring until you qualify for a return to routine monitoring under proposed §141.625(c). You must conduct increased monitoring under proposed §141.625 at the monitoring locations in the monitoring plan developed under proposed §141.622 beginning at the date identified in proposed §141.620(c) for compliance with this proposed subpart and remain on increased monitoring until you qualify for a return to routine monitoring under proposed §141.625(c).	Proposed §141.628		
PROPOSED §141.630 REPORTING AND RECORDKEEPING REQUIREMENTS			
<i>Reporting.</i> You must report the following information for each monitoring location to the state within 10 days of the end of any quarter in which monitoring is required:	Proposed §141.630(a)(1)		
Number of samples taken during the last quarter.	Proposed §141.630(a)(1)(i)		
Date and results of each sample taken during the last quarter.	Proposed §141.630(a)(1)(ii)		
Arithmetic average of quarterly results for the last four quarters (LRAAs).	Proposed §141.630(a)(1)(iii)		
Whether the MCL was violated.	Proposed §141.630(a)(1)(iv)		

Draft for Comment Based on the Proposed Stage 2 DBPR

SUMMARY OF FEDERAL REQUIREMENT	FEDERAL CITATION	STATE CITATION (DOCUMENT TITLE, PAGE NUMBER, SECTION/PARAGRAPH)	DIFFERENT FROM FED. REQUIREMENT? (EXPLAIN ON SEPARATE SHEET)
If you are a subpart H system seeking to qualify for or remain on reduced TTHM/HAA5 monitoring, you must report the following source water TOC information for each treatment plant that treats surface water or ground water under the direct influence of surface water to the state within 10 days of the end of any quarter in which monitoring is required:	Proposed §141.630(a)(2)		
The number of source water TOC samples taken each month during last quarter.	Proposed §141.630(a)(2)(i)		
The date and result of each sample taken during last quarter.	Proposed §141.630(a)(2)(ii)		
The quarterly average of monthly samples taken during last quarter.	Proposed §141.630(a)(2)(iii)		
The running annual average (RAA) of quarterly averages from the past four quarters.	Proposed §141.630(a)(2)(iv)		
Whether the RAA exceeded 4.0 mg/L.	Proposed §141.630(a)(2)(v)		
<i>Recordkeeping.</i> You must retain any proposed subpart V monitoring plans and your proposed subpart V monitoring results as required by proposed §141.33.	Proposed §141.630(b)		

SUMMARY OF FEDERAL REQUIREMENT	FEDERAL CITATION	EXPLANATION OF STATE POLICIES AND PROCEDURES
PART 142–NATIONAL PRIMARY DRINKING WATER REGULATIONS IMPLEMENTATION		
§142.14 RECORDS KEPT BY STATES		
Any decisions made pursuant to the provisions of 40 CFR part 141, proposed subparts U and V of this chapter.	Proposed §142.14(a)(8)	
Those systems for which the state has determined that the 40 CFR part 141, subpart L approved monitoring site is representative of the highest TTHM and HAA5 and therefore have been granted a very small system waiver under proposed §141.603(c) of this chapter. The state must provide a copy of the decision to the system. A copy of the decision must be kept until reversed or revised.	Proposed §142.14(a)(8)(i)	
System IDSE reports, plus any modifications required by the state. Reports must be kept until reversed or revised in their entirety.	Proposed §142.14(a)(8)(ii)	
§142.16 SPECIAL PRIMACY CONDITIONS		
<i>Requirements for states to adopt 40 CFR part 141, proposed subparts U and V.</i> In addition to the general primacy requirements elsewhere in this part, including the requirements that state regulations be at least as stringent as federal requirements, an application for approval of a state program revision that adopts 40 CFR part 141, proposed subparts U and V, must contain a description of how the state will accomplish the following:	Proposed §142.16(m)	
For PWSs serving fewer than 500 people, a very small system waiver procedure for proposed subpart U IDSE requirements that will apply to all systems that serve fewer than 500 people without the state making a system-by-system waiver determination, if the state elects to use such an authority.	Proposed §142.16(m)(1)	
A procedure for evaluating system-specific studies under proposed §141.603(a) of this chapter, if system-specific studies are conducted in the state.	Proposed §142.14(m)(2)	

Draft for Comment Based on the Proposed Stage 2 DBPR

SUMMARY OF FEDERAL REQUIREMENT	FEDERAL CITATION	EXPLANATION OF STATE POLICIES AND PROCEDURES
A procedure for determining that multiple consecutive system entry points from a single wholesale system to a single consecutive system should be treated as a single treatment plant for monitoring purposes.	Proposed §142.16(m)(3)	
A procedure for addressing consecutive systems outside the provisions of §141.29 of this chapter or part 141 proposed subparts U and V of this chapter, if the state elects to use such an authority.	Proposed §142.16(m)(4)	
A procedure for systems to identify significant excursions.	Proposed §142.16(m)(5)	

Appendix B

Regulatory Language

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List of Subjects**40 CFR Part 141**

Chemicals, Indians-lands, Intergovernmental relations, Radiation protection, Reporting and recordkeeping requirements, Water supply.

40 CFR Part 142

Administrative practice and procedure, Chemicals, Indians-lands, Radiation protection, Reporting and recordkeeping requirements, Water supply.

40 CFR Part 143

Chemicals, Indians-lands, Water supply.

Dated: July 11, 2003.

Linda J. Fisher,

Acting Administrator.

For the reasons set forth in the preamble, title 40 chapter I of the Code of Federal Regulations is proposed to be amended as follows:

PART 141—NATIONAL PRIMARY DRINKING WATER REGULATIONS

1. The authority citation for part 141 continues to read as follows:

Authority: 42 U.S.C. 300f, 300g–1, 300g–2, 300g–3, 300g–4, 300g–5, 300g–6, 300j–4, 300j–9, and 300j–11.

2. Section 141.2 is amended by adding, in alphabetical order, definitions for “Combined distribution system”, “Consecutive system”, “Consecutive system entry point”, “Dual sample sets”, “Finished water”, “Locational running annual average”, and “Wholesale system” to read as follows:

§ 141.2 Definitions.

Combined distribution system is the interconnected distribution system consisting of the distribution systems of wholesale systems and of the consecutive systems that receive finished water from those wholesale system(s).

Consecutive system is a public water system that buys or otherwise receives some or all of its finished water from one or more wholesale systems, for at least 60 days per year.

Consecutive system entry point is a location at which finished water is delivered at least 60 days per year from a wholesale system to a consecutive system.

Dual sample set is a set of two samples collected at the same time and same location, with one sample analyzed for TTHM and the other sample analyzed for HAA5. Dual sample sets are collected for the purposes of conducting an IDSE under subpart U of this part and determining compliance with the TTHM and HAA5 MCLs under subpart V of this part.

Finished water is water that is introduced into the distribution system of a public water system and is intended for distribution without further treatment, except that necessary to maintain water quality.

Locational running annual average (LRAA) is the average of sample analytical results for samples taken at a particular monitoring site during the previous four calendar quarters.

Stage 2A is the period beginning [date three years following publication of the final rule] until the dates specified in subpart V of this part for compliance with Stage 2B, during which systems must comply with Stage 2A MCLs in § 141.64(b)(2).

Wholesale system is a public water system that treats source water and then sells or otherwise delivers finished water to another public water system for at least 60 days per year. Delivery may be through a direct connection or through the distribution system of one or more consecutive systems.

3. In § 141.23, the table in paragraph (k)(1) is amended by revising entries 13, 18, 19, and 20; revising the undesignated text after the table; and adding a new footnote 19 to read as follows:

§ 141.23 Inorganic chemical sampling and analytical requirements.

(k) Inorganic analysis:

Contaminant and methodology ¹³	EPA	ASTM ³	SM ⁴ (18th, 19th ed.)	SM ⁴ (20th ed.)	Other
13. Fluoride:					
Ion Chromatography	⁶ 300.0 ¹⁹ 300.1	D4327–97	4110 B	4110 B	
Manual Distill.; Color. SPADNS.			4500–F B, D	4500–F B, D	
Manual Electrode		D1179–93B	4500–F C	4500–F C	
Automated Electrode					380–75WE ¹¹
Automated Alizarin			4500–F E	4500–F E	129–71W ¹¹
18. Nitrate:					
Ion Chromatography	⁶ 300.0 ¹⁹ 300.1	D4327–97	4110 B	4110 B	B1011 ⁸
Automated Cadmium Reduction	⁶ 353.2	D3867–90A	4500–NO ₃ F	4500–NO ₃ F	
Ion Selective Electrode			4500–NO ₃ D	4500–NO ₃ D	601 ⁷
Manual Cadmium Reduction		D3867–90B	4500–NO ₃ E	4500–NO ₃ E	
19. Nitrite:					
Ion Chromatography	⁶ 300.0 ¹⁹ 300.1	D4327–97	4110 B	4110 B	B–1011 ⁸
Automated Cadmium Reduction	⁶ 353.2	D3867–90A	4500–NO ₃ F	4500–NO ₃ F	
Manual Cadmium Reduction		D3867–90B	4500–NO ₃ E	4500–NO ₃ E	
Spectrophotometric			4500–NO ₂ B	4500–NO ₂ B	
20. Orthophosphate: ¹²					

Contaminant and methodology ¹³	EPA	ASTM ³	SM ⁴ (18th, 19th ed.)	SM ⁴ (20th ed.)	Other
Colorimetric, automated, ascorbic acid	⁶ 365.1	.	4500-P F	4500-P F	
Colorimetric, ascorbic acid, single reagent		D515-88A	4500-P E	4500-P E	
Colorimetric, phosphomolybdate .....	.	.	.	.	I-1601-85 ⁵
Automated-segmented flow .....	.	.	.	.	I-2601-90 ⁵
Automated discrete .....	.	.	.	.	I-2598-85 ⁵
Ion Chromatography	⁶ 300.0 ¹⁹ 300.1	D4327-97	4110 B	4110 B	
* * * * *					

Note: The procedures shall be done in accordance with the documents listed below. The incorporation by reference of the following documents listed in footnotes 1-11 and 16-19 was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies of the documents may be obtained from the sources listed below. Information regarding obtaining these documents can be obtained from the Safe Drinking Water Hotline at 800-426-4791. Documents may be inspected at EPA's Drinking Water Docket, EPA West, 1301 Constitution Avenue NW., Room B102, Washington, DC 20460 (Telephone: 202-566-2426); or at the Office of the Federal Register, 800 North Capitol Street, NW., Suite 700, Washington, DC.

³ *Annual Book of ASTM Standards*, 1994, 1996, or 1999, Vols. 11.01 and 11.02, ASTM International; any year containing the cited version of the method may be used. The previous versions of D1688-95A, D1688-95C (copper), D3559-95D (lead), D1293-95 (pH), D1125-91A (conductivity) and D859-94 (silica) are also approved. These previous versions D1688-90A, C; D3559-90D, D1293-84, D1125-91A and D859-88, respectively are located in the *Annual Book of ASTM Standards*, 1994, Vol. 11.01. Copies may be obtained from ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428.

⁴ *Standard Methods for the Examination of Water and Wastewater*, 18th edition (1992), 19th edition (1995), or 20th edition (1998). American Public Health Association, 1015 Fifteenth Street, NW, Washington, DC 20005. The cited methods published in any of these three editions may be used, except that the versions of 3111 B, 3111 D, 3113 B and 3114 B in the 20th edition may not be used.

⁵ Method I-2601-90, Methods for Analysis by the U.S. Geological Survey National Water Quality Laboratory—Determination of Inorganic and Organic Constituents in Water and Fluvial Sediment, Open File Report 93-125, 1993; For Methods I-1030-85; I-1601-85; I-1700-85; I-2598-85; I-2700-85; and I-3300-85 See Techniques of Water Resources Investigation of the U.S. Geological Survey, Book 5, Chapter A-1, 3rd ed., 1989; Available from Information Services, U.S. Geological Survey, Federal Center, Box 25286, Denver, CO 80225-0425.

⁶ "Methods for the Determination of Inorganic Substances in Environmental Samples", EPA/600/R-93/100, August 1993. Available at NTIS, PB94-120821.

⁷ The procedure shall be done in accordance with the Technical Bulletin 601 "Standard Method of Test for Nitrate in Drinking Water", July 1994, PN 221890-001, Analytical Technology, Inc. Copies may be obtained from ATI Orion, 529 Main Street, Boston, MA 02129.

⁸ Method B-1011, "Waters Test Method for Determination of Nitrite/Nitrate in Water Using Single Column Ion Chromatography," August 1987. Copies may be obtained from Waters Corporation, Technical Services Division, 34 Maple Street, Milford, MA 01757.

¹¹ Industrial Method No. 129-71W, "Fluoride in Water and Wastewater", December 1972, and Method No. 380-75WE, "Fluoride in Water and Wastewater", February 1976, Technicon Industrial Systems. Copies may be obtained from Bran & Luebbe, 1025 Busch Parkway, Buffalo Grove, IL 60089.

¹² Unfiltered, no digestion or hydrolysis.

¹³ Because MDLs reported in EPA Methods 200.7 and 200.9 were determined using a 2X preconcentration step during sample digestion, MDLs determined when samples are analyzed by direct analysis (*i.e.*, no sample digestion) will be higher. For direct analysis of cadmium and arsenic by Method 200.7, and arsenic by Method 3120 B sample preconcentration using pneumatic nebulization may be required to achieve lower detection limits. Preconcentration may also be required for direct analysis of antimony, lead, and thallium by Method 200.9; antimony and lead by Method 3113 B; and lead by Method D3559-90D unless multiple in-furnace depositions are made.

¹⁹ "Methods for the Determination of Organic and Inorganic Compounds in Drinking Water", Vol. 1, EPA 815-R-00-014, August 2000. Available at NTIS, PB2000-106981.

* * * * *

4. Section 141.24 is amended by revising paragraph (e)(1) and by revising entry 30 in the table in paragraph (e)(1) to read as follows:

§ 141.24 Organic chemicals, sampling and analytical requirements.

* * * * *

(e) * * *

(1) The following documents are incorporated by reference. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR Part 51. Copies may be inspected at EPA's Drinking Water Docket, 1301 Constitution Avenue, NW., EPA West, Room B102, Washington, DC 20460 (Telephone: 202-566-2426); or at the Office of the Federal Register, 800 North Capitol Street, NW., Suite 700, Washington, DC. Method 508A and 515.1 are in *Methods for the Determination of Organic Compounds*

in Drinking Water, EPA/600/4-88-039, December 1988, Revised, July 1991. Methods 547, 550 and 550.1 are in *Methods for the Determination of Organic Compounds in Drinking Water—Supplement I*, EPA/600-4-90-020, July 1990. Methods 548.1, 549.1, 552.1 and 555 are in *Methods for the Determination of Organic Compounds in Drinking Water—Supplement II*, EPA/600/R-92-129, August 1992. Methods 502.2, 504.1, 505, 506, 507, 508, 508.1, 515.2, 524.2 525.2, 531.1, 551.1 and 552.2 are in *Methods for the Determination of Organic Compounds in Drinking Water—Supplement III*, EPA/600/R-95-131, August 1995. Method 1613 is titled "Tetra-through Octa-Chlorinated Dioxins and Furans by Isotope-Dilution HRGC/HRMS", EPA/821-B-94-005, October 1994. These documents are available from the National Technical Information Service, NTIS PB91-231480, PB91-146027,

PB92-207703, PB95-261616 and PB95-104774, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161. The toll-free number is 800-553-6847. Method 6651 shall be followed in accordance with *Standard Methods for the Examination of Water and Wastewater*, 18th edition (1992), 19th edition (1995), or 20th edition (1998), American Public Health Association (APHA); any of these three editions may be used. Method 6610 shall be followed in accordance with *Standard Methods for the Examination of Water and Wastewater*, (18th Edition Supplement) (1994), or with the 19th edition (1995) or 20th edition (1998) of *Standard Methods for the Examination of Water and Wastewater*; any of these publications may be used. The APHA documents are available from APHA, 1015 Fifteenth Street NW., Washington, D.C. 20005. Other required analytical test procedures germane to the conduct

of these analyses are contained in *Technical Notes on Drinking Water Methods*, EPA/600/R-94-173, October 1994, NTIS PB95-104766. EPA Methods 515.3 and 549.2 are available from U.S. Environmental Protection Agency, National Exposure Research Laboratory (NERL)—Cincinnati, 26 West Martin Luther King Drive, Cincinnati, OH 45268. ASTM Method D 5317-93 is available in the *Annual Book of ASTM Standards*, (1999), Vol. 11.02, ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428, or in any edition published after 1993. EPA Method 515.4, "Determination of

Chlorinated Acids in Drinking Water by Liquid-Liquid Microextraction, Derivatization and Fast Gas Chromatography with Electron Capture Detection," Revision 1.0, April 2000, EPA/815/B-00/001 and EPA Method 552.3, "Determination of Haloacetic Acids and Dalapon in Drinking Water by Liquid-Liquid Microextraction, Derivatization, and Gas Chromatography with Electron Capture Detection," Revision 1.0, July 2003 can be accessed and downloaded directly on-line at <http://www.epa.gov/safewater/methods/sourcalt.html>. The Syngenta AG-625, "Atrazine in Drinking Water by

Immunoassay", February 2001 is available from Syngenta Crop Protection, Inc., 410 Swing Road, Post Office Box 18300, Greensboro, NC 27419, Phone number (336) 632-6000. Method 531.2 "Measurement of N-methylcarbamoyloximes and N-methylcarbamates in Water by Direct Aqueous Injection HPLC with Postcolumn Derivatization," Revision 1.0, September 2001, EPA 815/B/01/002 can be accessed and downloaded directly on-line at <http://www.epa.gov/safewater/methods/sourcalt.html>.

Contaminant	EPA method ¹	Standard methods	ASTM	Other
30. Dalapon	552.1, 515.1, 552.2, 515.3, 515.4, 552.3			

¹For previously approved EPA methods which remain available for compliance monitoring until June 1, 2001, see paragraph (e)(2) of this section.

* * * * *

5. Section 141.33 is amended by revising the first sentence of paragraph (a) introductory text, and adding paragraph (f) to read as follows:

§ 141.33 Record maintenance.

* * * * *

(a) Records of microbiological analyses and turbidity analyses made pursuant to this part shall be kept for not less than 5 years. * * *

* * * * *

(f) Copies of monitoring plans developed pursuant to this part shall be kept for the same period of time as the records of analyses are required to be kept under paragraph (a) of this section or for three years after modification, whichever is longer.

6. Section 141.53 is amended by revising the table to read as follows:

§ 141.53 Maximum contaminant level goals for disinfection byproducts.

* * * * *

Disinfection byproduct	MCLG (mg/L)
Bromodichloromethane	zero.
Bromoform	zero.
Bromate	zero.
Chlorite	0.8
Chloroform	0.07
Dibromochloromethane	0.06
Dichloroacetic acid	zero.
Monochloroacetic acid	0.03
Trichloroacetic acid	0.02

7. Section 141.64 is revised to read as follows:

§ 141.64 Maximum contaminant levels for disinfection byproducts.

(a) *Bromate and chlorite.* The maximum contaminant levels (MCLs) for bromate and chlorite are as follows:

Disinfection byproduct	MCL (mg/L)
Bromate	0.010
Chlorite	1.0

(1) *Compliance dates for CWSs and NTNCWSs.* Subpart H systems serving 10,000 or more persons must comply with this paragraph (a) beginning January 1, 2002. Subpart H systems serving fewer than 10,000 persons and systems using only ground water not under the direct influence of surface water must comply with this paragraph (a) beginning January 1, 2004.

(2) *Best available technology.* The Administrator, pursuant to section 1412 of the Act, hereby identifies the following as the best technology, treatment techniques, or other means available for achieving compliance with the maximum contaminant levels for bromate and chlorite identified in this paragraph (a):

Disinfection byproduct	Best available technology
Bromate	Control of ozone treatment process to reduce production bromate.

Disinfection byproduct	Best available technology
Chlorite	Control of treatment processes to reduce disinfectant demand and control of disinfection treatment processes to reduce disinfectant levels.

(b) *TTHM and HAA5.*

(1) *Subpart L—RAA compliance.* (i) *Compliance dates.* Subpart H systems serving 10,000 or more persons must comply with this paragraph (b)(1) beginning January 1, 2002 until the date specified for subpart V of this part compliance in § 141.620(c). Subpart H systems serving fewer than 10,000 persons and systems using only ground water not under the direct influence of surface water must comply with this paragraph (b)(1) beginning January 1, 2004 until the date specified for subpart V of this part compliance in § 141.620(c).

Disinfection byproduct	MCL (mg/L)
Total trihalomethanes (TTHM)	0.080
Haloacetic acids (five) (HAA5)	0.060

(ii) *Best available technology.* The Administrator, pursuant to section 1412 of the Act, hereby identifies the following as the best technology, treatment techniques, or other means

available for achieving compliance with the maximum contaminant levels for TTHM and HAA5 identified in this paragraph (b)(1):

Disinfection byproduct	Best available technology
Total trihalomethanes (TTHM) and Haloacetic acids (five) (HAA5).	Enhanced coagulation or enhanced softening or GAC10, with chlorine as the primary and residual disinfectant.

(2) *Stage 2A—LRAA compliance.* (i) *Compliance dates.* The Stage 2A MCLs for TTHM and HAA5 must be complied with as a locational running annual average at each subpart L of this part compliance monitoring location under § 141.136 beginning [date three years after publication of the final rule] until the date specified for subpart V of this part compliance in § 141.620(c).

Disinfection byproduct	MCL (mg/L)
Total trihalomethanes (TTHM)	0.120
Haloacetic acids (five) (HAA5)	0.100

(ii) *Best available technology.* The Administrator, pursuant to section 1412 of the Act, hereby identifies the following as the best technology, treatment techniques, or other means available for achieving compliance with the maximum contaminant levels for TTHM and HAA5 identified in this paragraph (b)(2):

Disinfection byproduct	Best available technology
Total trihalomethanes (TTHM) and Haloacetic acids (five) (HAA5).	Enhanced coagulation or enhanced softening or GAC10, with chlorine as the primary and residual disinfectant.

(3) *Subpart V LRAA compliance.* (i) *Compliance dates.* The subpart V of this part MCLs for TTHM and HAA5 must be complied with as a locational running annual average at each monitoring location beginning the date specified for Subpart V of this part compliance in § 141.620(c).

Disinfection byproduct	MCL (mg/L)
Total trihalomethanes (TTHM)	0.080
Haloacetic acids (five) (HAA5)	0.060

(ii) *Best technology for systems that disinfect their source water.* The Administrator, pursuant to section 1412 of the Act, hereby identifies the

following as the best technology, treatment techniques, or other means available for achieving compliance with the maximum contaminant levels for TTHM and HAA5 identified in this paragraph (b)(3) for all systems that disinfect their source water:

Disinfection byproduct	Best available technology
Total trihalomethanes (TTHM) and Haloacetic acids (five) (HAA5).	Enhanced coagulation or enhanced softening, plus GAC10; or nanofiltration with a molecular weight and cutoff ≤1000 Daltons; or GAC20.

(iii) *Best available technology for systems that buy disinfected water.* The Administrator, pursuant to section 1412 of the Act, hereby identifies the following as the best technology, treatment techniques, or other means available for achieving compliance with the maximum contaminant levels for TTHM and HAA5 identified in this paragraph (b)(3) for systems that buy disinfected water:

Disinfection byproduct	Best available technology
Total trihalomethanes (TTHM) and Haloacetic acids (five) (HAA5).	Improved distribution system and storage tank management to reduce detention time plus the use of chloramines for disinfectant residual maintenance.

(c) *Extensions.* A system that is installing GAC or membrane technology to comply with the MCLs in paragraphs (a) or (b)(1) of this section may apply to the State for an extension of up to 24 months past January 1, 2002, but not beyond January 1, 2004. In granting the extension, States must set a schedule for compliance and may specify any interim measures that the system must take. Failure to meet the schedule or any interim treatment requirements constitutes a violation of a National Primary Drinking Water Regulation.

Subpart L—[Amended]

8. Section 141.131 is amended by revising paragraphs (a), (b), (d)(2), (d)(3), (d)(4)(i), (d)(4)(ii), and the table in paragraph (c)(1), and adding paragraph (d)(6) to read as follows:

§ 141.131 Analytical requirements.

(a) *General.* (1) Systems must use only the analytical methods specified in this section, or their equivalent as approved by EPA, to demonstrate compliance with the requirements of this subpart and with the requirements of subparts U

and V. These methods are effective for compliance monitoring February 16, 1999, unless a different effective date is specified in this section or by the State.

(2) The following documents are incorporated by reference. The Director of the Federal Register approves this incorporation by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be inspected at EPA's Drinking Water Docket, 1301 Constitution Avenue, NW., EPA West, Room B102, Washington, DC 20460, or at the Office of the Federal Register, 800 North Capitol Street, NW., Suite 700, Washington, DC. EPA Method 552.1 is in *Methods for the Determination of Organic Compounds in Drinking Water—Supplement II*, USEPA, August 1992, EPA/600/R-92/129 (available through National Information Technical Service (NTIS), PB92-207703). EPA Methods 502.2, 524.2, 551.1, and 552.2 are in *Methods for the Determination of Organic Compounds in Drinking Water—Supplement III*, USEPA, August 1995, EPA/600/R-95/131. (Available through NTIS, PB95-261616). EPA Method 300.0 for chlorite and bromide is in *Methods for the Determination of Inorganic Substances in Environmental Samples*, USEPA, August 1993, EPA/600/R-93/100 (available through NTIS, PB94-121811). EPA Methods 300.1 for chlorite, bromate, and bromide and 321.8 for bromate are in *Methods for the Determination of Organic and Inorganic Compounds in Drinking Water, Volume 1*, USEPA, August 2000, EPA 815-R-00-014 (available through NTIS, PB2000-106981). EPA Method 317.0, Revision 2.0, "Determination of Inorganic Oxyhalide Disinfection By-Products in Drinking Water Using Ion Chromatography with the Addition of a Postcolumn Reagent for Trace Bromate Analysis," USEPA, July 2001, EPA 815-B-01-001, EPA Method 326.0, Revision 1.0, "Determination of Inorganic Oxyhalide Disinfection By-Products in Drinking Water Using Ion Chromatography Incorporating the Addition of a Suppressor Acidified Postcolumn Reagent for Trace Bromate Analysis," USEPA, June 2002, EPA 815-R-03-007, EPA Method 327.0, Revision 1.0, "Determination of Chlorine Dioxide and Chlorite Ion in Drinking Water Using Lissamine Green B and Horseradish Peroxidase with Detection by Visible Spectrophotometry," USEPA, July 2003, and EPA Method 552.3, Revision 1.0, "Determination of Haloacetic Acids and Dalapon in Drinking Water by Liquid-liquid Extraction, Derivatization, and Gas Chromatography with Electron Capture Detection," USEPA, July 2003, can be

accessed and downloaded directly online at www.epa.gov/safewater/methods/sourcalt.html. EPA Method 415.3, Revision 1.0, "Determination of Total Organic Carbon and Specific UV Absorbance at 254 nm in Source Water and Drinking Water," USEPA, June 2003, is available from: Chemical Exposure Research Branch, Microbiological & Chemical Exposure Assessment Research Division, National Exposure Research Laboratory, U.S. Environmental Protection Agency, Cincinnati, OH 45268, Fax Number 513-569-7757, Phone number: 513-569-7586. Standard Methods 4500-Cl D, 4500-Cl E, 4500-Cl F, 4500-Cl G, 4500-Cl H, 4500-Cl I, 4500-ClO₂ E, 6251 B, and 5910 B shall be followed in accordance with *Standard Methods for the Examination of Water and Wastewater, 19th or 20th Editions or the On-Line Version*, American Public

Health Association, 1995, 1998, and 2003, respectively. The cited methods published in any of these three editions may be used. Standard Method 4500-ClO₂ D shall be followed in accordance with *Standard Methods for the Examination of Water and Wastewater, 19th or 20th Editions*, American Public Health Association, 1995 and 1998, respectively. Standard Methods 5310 B, 5310 C, and 5310 D shall be followed in accordance with the *Supplement to the 19th Edition of Standard Methods for the Examination of Water and Wastewater*, or the *Standard Methods for the Examination of Water and Wastewater, 20th Edition*, or the *On-Line Version*, American Public Health Association, 1995, 1998, and 2003, respectively. The cited methods published in any of these editions may be used. Copies may be obtained from the American Public Health

Association, 1015 Fifteenth Street, NW., Washington, DC 20005. ASTM Method D 1253-86 shall be followed in accordance with the *Annual Book of ASTM Standards*, Volume 11.01, American Society for Testing and Materials, 1996 or any year containing the cited version of the method may be used. ASTM D 6581-00 shall be followed in accordance with the *Annual Book of ASTM Standards*, Volume 11.01, American Society for Testing and Materials, 2001 or any year containing the cited version of the method may be used; copies may be obtained from the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.

(b) *Disinfection byproducts.* (1) Systems must measure disinfection byproducts by the methods (as modified by the footnotes) listed in the following table:

APPROVED METHODS FOR DISINFECTION BYPRODUCT COMPLIANCE MONITORING

Contaminant and methodology ¹	EPA method	Standard Method ²	ASTM Method ³
TTHM:			
P&T/GC/EICD & PID	502.2 ⁴		
P&T/GC/MS	524.2		
LLE/GC/ECD	551.1		
HAA5:			
LLE (diazomethane)/GC/ECD		6251 B ⁵ .	
SPE (acidic methanol)/GC/ECD	552.1 ⁵		
LLE (acidic methanol)/GC/ECD	552.2, 552.3.		
Bromate:			
Ion chromatography	300.1	.....	D 6581-00
Ion chromatography & post column reaction	317.0 Rev 2.0 ⁶ , 326.0 ⁶		
IC/ICP-MS	321.8 ^{6, 7}		
Chlorite:			
Amperometric titration		4500-ClO ₂ E ⁸ .	
Spectrophotometry	327.0 ⁸ .	.	
Ion chromatography	300.0, 300.1, 317.0 Rev. 2.0, 326.0	.....	D 6581-00

¹ P&T = purge and trap; GC = gas chromatography; EICD = electrolytic conductivity detector; PID = photoionization detector; MS = mass spectrometer; LLE = liquid/liquid extraction; ECD = electron capture detector; SPE = solid phase extraction; IC = ion chromatography; ICP-MS = inductively coupled plasma/mass spectrometer

² 19th or 20th editions or the On-Line Version of *Standard Methods for the Examination of Water and Wastewater*, 1995, 1998, and 2003, respectively, American Public Health Association; any of these editions may be used.

³ *Annual Book of ASTM Standards*, 2001 or any year containing the cited version of the method, Vol 11.01.

⁴ If TTHMs are the only analytes being measured in the sample, then a PID is not required.

⁵ The samples must be extracted within 14 days of sample collection.

⁶ Ion chromatography & post column reaction or IC/ICP-MS must be used for monitoring of bromate for purposes of demonstrating eligibility of reduced monitoring, as prescribed in § 141.132(b)(3)(ii).

⁷ Samples must be preserved at the time of sampling with 50 mg ethylenediamine (EDA)/L of sample and must be analyzed within 28 days.

⁸ Amperometric titration or spectrophotometry may be used for routine daily monitoring of chlorite at the entrance to the distribution system, as prescribed in § 141.132(b)(2)(i)(A). Ion chromatography must be used for routine monthly monitoring of chlorite and additional monitoring of chlorite in the distribution system, as prescribed in § 141.132(b)(2)(i)(B) and (b)(2)(ii).

(2) Analysis under this section for disinfection byproducts must be conducted by laboratories that have received certification by EPA or the State, except as specified under paragraph (b)(3) of this section. To receive certification to conduct analyses for the DBP contaminants in §§ 141.64,

141.135, and subparts U and V of this part, the laboratory must:

(i) Analyze Performance Evaluation (PE) samples that are acceptable to EPA or the State at least once during each consecutive 12 month period by each method for which the laboratory desires certification.

(ii) Achieve quantitative results on the PE sample analyses that are within the following acceptance limits which become effective [date 60 days after date of final rule publication] for purposes of certification:

DBP	Acceptance limits (percent)	Comments
TTHM:		
Chloroform	±20	Laboratory must meet all 4 individual THM acceptance limits in order to successfully pass a PE sample for TTHM.
Bromodichloromethane	±20	
Dibromochloromethane	±20	
Bromoform	±20	
HAA5:		
Monochloroacetic Acid	±40	Laboratory must meet the acceptance limits for 4 out of 5 of the HAA5 compounds in order to successfully pass a PE sample for HAA5.
Dichloroacetic Acid	±40	
Trichloroacetic Acid	±40	
Monobromoacetic Acid	±40	
Dibromoacetic Acid	±40	
Chlorite	±30	
Bromate	±30	

(iii) Report quantitative data for concentrations at least as low as the

ones listed in the following table for all DBP samples analyzed for compliance

with §§ 141.64, 141.135, 141.136, and subparts U and V of this part:

DBP	Minimum reporting level (ug/L) ⁷	Comments
TTHM ² :		
Chloroform	1.0	Laboratories that use EPA Methods 317.0 Revision 2.0, 326.0 or 321.8 must meet a 1.0 µg/L MRL for bromate.
Bromodichloromethane	1.0	
Dibromochloromethane	1.0	
Bromoform	1.0	
HAA5: ²		
Monochloroacetic Acid	2.0	
Dichloroacetic Acid	1.0	
Trichloroacetic Acid	1.0	
Monobromoacetic Acid	1.0	
Dibromoacetic Acid	1.0	
Chlorite	200.	
Bromate	5.0 or 1.0	

¹ The calibration curve must encompass the minimum reporting level (MRL) concentration and the laboratory must verify the accuracy of the calibration curve at the lowest concentration for which quantitative data are reported by analyzing a calibration check standard at that concentration at the beginning of each batch of samples. The measured concentration for the check standard must be within ±50% of the expected value. Data may be reported for concentrations lower than the MRL as long as the precision and accuracy criteria are met by analyzing a standard at the lowest reporting limit chosen by the laboratory.

² When adding the individual trihalomethane or haloacetic acid concentrations to calculate the TTHM or HAA5 concentrations, respectively, a zero is used for any analytical result that is less than the MRL concentration for that DBP.

(3) A party approved by EPA or the State must measure daily chlorite

samples at the entrance to the distribution system.

(c) * * *
(1) * * *

Methodology	Standard method	ASTM method	EPA method	Residual Measured ¹			
				Free chlorine	Combined chlorine	Total chlorine	Chlorine dioxide
Amperometric Titration	4500-Cl D	D 1253-86		X	X	X	
Low Level Amperometric Titration	4500-Cl E					X	
DPD Ferrous Titrimetric	4500-Cl F			X	X	X	
DPD Colorimetric	4500-Cl G			X	X	X	
Syngaldazine (FACTS)	4500-Cl			X			
Iodometric Electrode	4500-Cl					X	
DPD	4500-ClO ₂						X
Amperometric Method II	4500-ClO ₂						X
	E						
Lissamine Green Spectrophotometric ...			327.0				X

¹ X indicates method is approved for measuring specified disinfectant residual. Free chlorine or total chlorine may be measured for demonstrating compliance with the chlorine MRDL and combined chlorine or total chlorine may be measured for demonstrating compliance with the chloramine MRDL.

* * * * *

(d) * * *

(2) *Bromide*. EPA Methods 300.0, 300.1, 317.0 Revision 2.0, 326.0, or ASTM D 6581-00.

(3) *Total Organic Carbon (TOC)*. Standard Method 5310 B (High-Temperature Combustion Method) or Standard Method 5310 C (Persulfate-Ultraviolet or Heated-Persulfate Oxidation Method) or Standard Method 5310 D (Wet-Oxidation Method) or EPA Method 415.3. Inorganic carbon must be removed from the samples prior to analysis. TOC samples may not be filtered prior to analysis. TOC samples must be acidified at the time of sample collection to achieve pH less than or equal to 2 with minimal addition of the acid specified in the method or by the instrument manufacturer. Acidified TOC samples must be analyzed within 28 days.

(4) * * *

(i) Dissolved Organic Carbon (DOC). Standard Method 5310 B (High-Temperature Combustion Method) or Standard Method 5310 C (Persulfate-Ultraviolet or Heated-Persulfate Oxidation Method) or Standard Method 5310 D (Wet-Oxidation Method) or EPA Method 415.3. DOC samples must be filtered through the 0.45 µm pore-diameter filter as soon as practical after sampling, not to exceed 48 hours. After filtration, DOC samples must be acidified to achieve pH less than or equal to 2 with minimal addition of the acid specified in the method or by the instrument manufacturer. Acidified DOC samples must be analyzed within 28 days. Inorganic carbon must be removed from the samples prior to analysis. Water passed through the filter prior to filtration of the sample must serve as the filtered blank. This filtered blank must be analyzed using procedures identical to those used for analysis of the samples and must meet the following criteria: DOC < 0.5 mg/L.

(ii) Ultraviolet Absorption at 254 nm (UV²⁵⁴). Standard Method 5910 B (Ultraviolet Absorption Method) or EPA Method 415.3. UV absorption must be measured at 253.7 nm (may be rounded off to 254 nm). Prior to analysis, UV²⁵⁴ samples must be filtered through a 0.45 µm pore-diameter filter. The pH of UV²⁵⁴ samples may not be adjusted. Samples must be analyzed as soon as practical after sampling, not to exceed 48 hours.

* * * * *

(6) *Magnesium*. All methods allowed in § 141.23(k)(1) for measuring magnesium.

9. Section 141.132 is amended by revising paragraphs (b)(3)(ii) and (e) to read as follows:

§ 141.132 Monitoring requirements.

* * * * *

(b) * * *

(i) * * *

(ii) *Reduced monitoring*.

(A) Until [date three years from final rule publication], systems required to analyze for bromate may reduce monitoring from monthly to quarterly, if the system's average source water bromide concentration is less than 0.05 mg/L based on representative monthly bromide measurements for one year. The system may remain on reduced bromate monitoring until the running annual average source water bromide concentration, computed quarterly, is equal to or greater than 0.05 mg/L based on representative monthly measurements. If the running annual average source water bromide concentration is ≥ 0.05 mg/L, the system must resume routine monitoring required by paragraph (b)(3)(i) of this section.

(B) Beginning [date three years from final rule publication], systems may no longer use the provisions of paragraph (b)(3)(ii)(A) of this section to qualify for reduced monitoring. A system required to analyze for bromate may reduce monitoring from monthly to quarterly, if the system's running annual average bromate concentration is less than 0.0025 mg/L based on monthly bromate measurements under paragraph (b)(3)(i) of this section for the most recent four quarters, with samples analyzed using Method 317.0 Revision 2.0, 325.0 or 321.8. If a system has qualified for reduced bromate monitoring under paragraph (b)(3)(ii)(A) of this section, that system may remain on reduced monitoring as long as the running annual average of quarterly bromate samples does not exceed 0.0025 mg/L based on samples analyzed using Method 317.0 Revision 2.0, 325.0, or 321.8. If the running annual average bromate concentration is > 0.0025 mg/L, the system must resume routine monitoring required by paragraph (b)(3)(i) of this section.

* * * * *

(e) *Monitoring requirements for source water TOC*. In order to qualify for reduced monitoring for TTHM and HAA5 under paragraph (b)(1)(ii) of this section, subpart H systems not monitoring under the provisions of paragraph (d) of this section must take monthly TOC samples approximately every 30 days at a location prior to any treatment. In addition to meeting other criteria for reduced monitoring in paragraph (b)(1)(ii) of this section, the source water TOC running annual average must be ≤ 4.0 mg/L (based on the

most recent four quarters of monitoring) on a continuing basis at each treatment plant to reduce or remain on reduced monitoring for TTHM and HAA5.

* * * * *

10. Section 141.134 is amended by revising paragraph (b) introductory text to read as follows:

§ 141.134 Reporting and recordkeeping requirements.

* * * * *

(b) *Disinfection byproducts*. In addition to reporting required under § 141.136(e), systems must report the information specified in the following table:

* * * * *

11. Section 141.135 is amended by revising paragraph (a)(3)(ii) to read as follows:

§ 141.135 Treatment technique for control of disinfection byproduct (DBP) precursors.

(a) * * *

(3) * * *

(ii) Softening that results in removing at least 10 mg/L of magnesium hardness (as CaCO₃), measured monthly according to § 141.131(d)(6) and calculated quarterly as a running annual average.

* * * * *

12. Section 141.136 is added to subpart L to read as follows:

§ 141.136 Additional compliance requirements for Stage 2A.

(a) *Applicability*. Any system that takes TTHM and HAA5 compliance samples under this subpart at more than one location in its distribution system is subject to additional MCL requirements beginning [date 3 years after publication of final rule] until the dates identified for compliance with subpart V in § 141.620(c). Any system that takes samples at more than one location must calculate a locational running annual average (LRAA) for each sampling point and comply with the MCLs of 0.120 mg/L for TTHM and 0.100 mg/L for HAA5 listed in § 141.64(b)(2), except as provided for under paragraph (c) of this section.

(b) *Compliance*. (1) Systems must calculate a locational running annual average each quarter for each monitoring location at which they took TTHM and HAA5 samples under their monitoring plan developed under § 141.132(f) by averaging the results of TTHM or HAA5 monitoring at that sample location during the four most recent quarters.

(2) Systems required to conduct quarterly monitoring under this subpart must begin to make compliance calculations under paragraph (b) of this

section at the end of the fourth calendar quarter that follows the compliance date in paragraph (a) of this section and at the end of each subsequent quarter. Systems required to conduct monitoring at a frequency that is less than quarterly under this subpart must make compliance calculations under paragraph (b) of this section beginning with the first compliance sample taken after the compliance date in paragraph (a) of this section.

(3) Failure to monitor will be treated as a monitoring violation for each quarter that a monitoring result would be used in a locational running annual average compliance calculation.

(c) *Consecutive systems.* A consecutive system must comply with the TTHM and HAA5 MCLs in § 141.64(b)(2) at each monitoring location in its distribution system identified in its monitoring plan developed under § 141.132(f).

(d) *Reporting.* Systems must submit the compliance calculations and locational running annual averages under this section as part of the reports required under § 141.134.

Subpart O—[Amended]

13. Section 141.151 is amended by revising paragraph (d) to read as follows:

§ 141.151 Purpose and applicability of this subpart.

* * * * *

(d) For the purpose of this subpart, *detected* means: At or above the levels prescribed by § 141.23(a)(4) for inorganic contaminants, at or above the levels prescribed by § 141.24(f)(7) for the contaminants listed in § 141.61(a), at or above the levels prescribed by § 141.24(h)(18) for the contaminants listed in § 141.61(c), at or above the levels prescribed by § 141.131(b)(2)(iii) for the contaminants or contaminant groups listed in § 141.64 and § 141.153(d)(iv), and at or above the levels prescribed by § 141.25(c) for radioactive contaminants.

* * * * *

14. Section 141.153 is amended by revising paragraphs (d)(4)(iv)(B) and (d)(4)(iv)(C) to read as follows:

§ 141.153 Content of the reports.

* * * * *

(d) * * *

(4) * * *

(iv) * * *

(B) When compliance with the MCL is determined by calculating a running annual average of all samples taken at a sampling point: the highest average of any of the sampling points and the range of all sampling points expressed

in the same units as the MCL. For the MCLs for TTHM and HAA5 in § 141.64(b)(2) and (3), systems must include the highest locational running annual average for TTHM and HAA5 and the range of individual sample results for all sampling points expressed in the same units as the MCL. If more than one site exceeds the MCL, the system must include the locational running annual averages for all sites that exceed the MCL.

(C) When compliance with the MCL is determined on a system-wide basis by calculating a running annual average of all samples at all sampling points: the average and range of detection expressed in the same units as the MCL. The system is not required to include the range of individual sample results for the IDSE conducted under subpart U of this part.

* * * * *

Subpart Q—[Amended]

15. In Appendix A, the table is amended by revising entries 1.G.1 and 1.G.2, and endnotes 12 and 20, to read as follows:

APPENDIX A TO SUBPART Q OF PART 141.—NPDWR VIOLATIONS AND OTHER SITUATIONS REQUIRING PUBLIC NOTICE ¹

Contaminant	MCL/MRDL/TT violations ²		Monitoring and testing procedure violations	
	Tier of public notice required	Citation	Tier of public notice required	Citation
I. Violations of National Primary Drinking Water Regulations (NPDWR): ³				
* * *				
G. Disinfection Byproducts, * * *				
1. Total trihalomethanes (TTHM)	2	141.12 ¹² , 141.64(b) ²⁰	3	141.30 ¹² , 141.132(a)–(b) ²⁰ , 141.620–.630
2. Haloacetic acids (HAA5)	2	141.64(b) ²⁰	3	141.132(a)–(b) ²⁰ , 141.620–.630

Appendix A—Endnotes

12. §§ 141.12 and 141.30 will no longer apply after December 31, 2003.

* * * * *

20. §§ 141.64(b)(1) and 141.132(a)–(b) apply until §§ 141.64(b)(3) and 141.620–.630 take

effect under the schedule in § 141.620(c). § 141.64(b)(2) takes effect on [date three years following final rule publication] and remains in effect until the effective dates for subpart V of this part compliance in the table in § 141.620(c).

* * * * *

16. In Appendix B the table is amended by revising entries H.79, H.80, and endnote 17, and adding endnote 23, to read as follows:

APPENDIX B TO SUBPART Q OF PART 141—STANDARD HEALTH EFFECTS LANGUAGE FOR PUBLIC NOTIFICATION

Contaminant	MCLG ¹ mg/ L	MCL ² mg/L	Standard health effects language for public notification
H. Disinfection Byproducts (DBPs), * * * 17:			
79. Total trihalomethanes (TTHM)	N/A	0.10/0.120/0.080 ^{18, 19, 23}	* * *
80. Haloacetic acids (HAA5).	N/A	0.060/0.100 ^{20, 23}	* * *

Appendix B—Endnotes

17. Surface water systems and ground water systems under the direct influence of surface water are regulated under subpart H of 40 CFR 141. Subpart H community and non-transient non-community systems serving $\geq 10,000$ must comply with subpart L DBP MCLs and disinfectant maximum residual disinfectant levels (MRDLs) beginning January 1, 2002. All other community and non-transient non-community systems must comply with subpart L DBP MCLs and disinfectant MRDLs beginning January 1, 2004. Subpart H transient non-community systems serving $\geq 10,000$ that use chlorine dioxide as a disinfectant or oxidant must comply with the chlorine dioxide MRDL beginning January 1, 2002. All other transient non-community systems that use chlorine dioxide as a disinfectant or oxidant must comply with the chlorine dioxide MRDL beginning January 1, 2004.

23. Community and non-transient non-community systems must comply with TTHM and HAA5 MCLs of 0.120 mg/L and 0.100 mg/L, respectively (with compliance calculated as a locational running annual average) beginning [date three years following publication of final rule] until they are required to comply with subpart V TTHM and HAA5 MCLs of 0.080 mg/L and 0.060 mg/L, respectively (with compliance calculated as a locational running annual average). Community and non-transient non-community systems serving $\geq 10,000$ must comply with subpart V TTHM and HAA5 MCLs (with compliance calculated as a locational running annual average) beginning [date six years following publication of final rule]. Community and non-transient non-community systems serving $< 10,000$ must

comply with subpart V TTHM and HAA5 MCLs (with compliance calculated as a locational running annual average) beginning [date 90 months following publication of final rule].

17. Part 141 is amended by adding new subpart U to read as follows:

Subpart U—Initial Distribution System Evaluations

Sec.

- 141.600 General requirements.
- 141.601 Initial Distribution System Evaluation (IDSE) requirements.
- 141.602 IDSE monitoring.
- 141.603 Alternatives other than IDSE monitoring.
- 141.604 IDSE reports.
- 141.605 Subpart V monitoring location recommendations to the State.

Subpart U—Initial Distribution System Evaluations**§ 141.600 General requirements.**

(a) The requirements of subpart U constitute national primary drinking water regulations. The regulations in this subpart establish monitoring and other requirements for identifying compliance monitoring locations to be used for determining compliance with maximum contaminant levels for total trihalomethanes (TTHM) and haloacetic acids (five)(HAA5) in subpart V through the use of an Initial Distribution System Evaluation (IDSE). IDSEs are studies, used in conjunction with subpart L compliance monitoring, to identify and select subpart V compliance monitoring sites that represent high TTHM and HAA5 levels throughout the distribution system. The studies will be based on

system-specific monitoring as provided in § 141.602. As an alternative, you may use other system-specific data that provide equivalent or better information on site selection for monitoring under subpart V as provided for in § 141.603(a).

(b) *Applicability.* You are subject to these requirements if your system is a community water system that adds a primary or residual disinfectant other than ultraviolet light or delivers water that has been treated with a primary or residual disinfectant other than ultraviolet light or if your system is a nontransient noncommunity water system that serves at least 10,000 people and adds a primary or residual disinfectant other than ultraviolet light or delivers water that has been treated with a primary or residual disinfectant other than ultraviolet light. You must conduct an Initial Distribution System Evaluation (IDSE), unless you meet the 40/30 certification criteria in § 141.603(b) or the State has granted a very small system waiver for the IDSE or you meet the criteria defined by the State for a very small system waiver under § 141.603(c). If you have a very small system waiver for the IDSE under § 141.603(c), you are not required to submit an IDSE report. All other systems must submit an IDSE report, even if you meet the 40/30 certification criteria in § 141.603(c).

(c) *Schedule.* You must comply with the Initial Distribution System Evaluation (IDSE) on the schedule in the following table, based on your system type.

If you are this type of system	You must submit your IDSE report to the state by ¹
(1) Subpart H serving $\geq 10,000$	[date 24 mos. following publication of final rule]
(2) Subpart H serving $< 10,000$	[date 24 mos. following publication of final rule] ²
(3) Ground water serving $\geq 10,000$	[date 24 mos. following publication of final rule]
(4) Ground water serving $< 10,000$	[date 24 mos. following publication of final rule] ²
(5) Consecutive system	at the same time as the system with the earliest compliance date in the combined distribution system ³

¹ Systems that meet the 40/30 certification criteria in § 141.603(b) are encouraged to submit their IDSE report as soon as the certification criteria are met.

² You must comply by [date 24 mos. following publication of final rule] if you are a wholesale system and any system in the combined distribution system serves at least 10,000 people. You must comply by [date 48 mos. following publication of final rule] if no system in the combined distribution system serves at least 10,000 people.

³ You must comply by [date 24 mos. following publication of final rule] if any system in the combined distribution system serves at least 10,000 people. You must comply by [date 48 mos. following publication of final rule] if no system in the combined distribution system serves at least 10,000 people.

(d) *Violations.* You must comply with specific monitoring and reporting requirements. You must prepare for, conduct, analyze, and submit your IDSE report no later than the date specified in § 141.600(c). Failure to conduct a required IDSE or to submit a required IDSE report by the date specified in paragraph (c) of this section is a monitoring violation. If you do not submit your IDSE report to your State, or if you submit the report after the specified date, you must comply with

any additional State-specified requirements, which may include conducting another IDSE.

§ 141.601 Initial Distribution System Evaluation (IDSE) requirements.

(a) You must conduct an IDSE that meets the requirements in § 141.602 or § 141.603(a) or meet the 40/30 certification criteria in § 141.603(b) or have received a very small system waiver for the IDSE from the State under § 141.603(c). If you do not take the full complement of TTHM and HAA5

compliance samples required of a system with your population and source water under subpart L, but are required to conduct an IDSE under this subpart, you are not eligible for either the 40/30 certification in § 141.603(b) or the very small system waiver in § 141.603(c) and must conduct an IDSE that meets the requirements in § 141.602 or § 141.603(a).

(b) You may use any alternative listed in the table below for which you qualify.

IDSE ALTERNATIVES

Alternatives	Eligibility	Regulatory reference
(1) Monitoring	All systems required to conduct an IDSE	§ 141.602
(2) System-specific study	All systems required to conduct an IDSE	§ 141.603(a)
(3) 40/30 certification	Any system with all TTHM compliance samples ≤ 0.040 mg/L and all HAA5 compliance samples ≤ 0.030 mg/L during the period specified in § 141.603(b).	§ 141.603(b)
(4) Very small system waiver.	Any system serving <500 for which the State has granted a waiver	§ 141.603(c)

(c) IDSE results will not be used for the purpose of determining compliance with MCLs in § 141.64.

(d) *Additional provisions:*

(1) You may consider multiple wells drawing water from a single aquifer as one treatment plant for determining the minimum number of TTHM and HAA5 samples required, with State approval in accordance with criteria developed under § 142.16(h)(5) of this chapter. State approvals made under § 141.132(a)(2) to treat multiple wells drawing water from a single aquifer as one treatment plant remain in effect unless withdrawn by the State.

(2) If you are a consecutive system, you must comply with the IDSE requirements in this subpart based on whether you buy some or all of your water from another PWS during 2004 for systems with an IDSE report due [date 24 months after publication of final rule] or during 2006 for systems with an IDSE report due [date 48 months after publication of final rule]. A consecutive system that buys some, but not all, of its finished water during the period

identified in this paragraph must treat each consecutive system entry point from a wholesale system as a treatment plant for the consecutive system for the purpose of determining monitoring requirements of this subpart if water is delivered from the wholesale system to the consecutive system for at least 60 consecutive days through any of the consecutive system entry points. A consecutive system that buys all its finished water during the period identified in this paragraph must monitor based on population and source water for the purpose of determining monitoring requirements of this subpart.

(i) You may request that the State allow multiple consecutive system entry points from a single wholesale system to a single consecutive system to be considered one treatment plant.

(ii) In the request to the State for approval of multiple consecutive system entry points to be considered one treatment plant, you must demonstrate that factors such as relative locations of entry points, detention times, sources, and the presence of treatment (such as corrosion control or booster

disinfection) will have a minimal differential effect on TTHM and HAA5 formation associated with individual entry points.

§ 141.602 IDSE monitoring.

(a) You must conduct IDSE monitoring for each treatment plant as indicated in the table in this paragraph. You must collect dual sample sets at each monitoring location. One sample in the set must be analyzed for TTHM. The other sample in the set must be analyzed for HAA5. If approved by the State under the provisions of § 141.601(d)(1), you may consider multiple wells drawing water from the same aquifer to be one treatment plant for the purpose of determining monitoring requirements. You must conduct one monitoring period during the peak historical month for TTHM levels or HAA5 levels or the month of warmest water temperature. You must review available compliance, study, or operational data to determine the peak historical month for TTHM or HAA5 levels or warmest water temperature.

If you are this type of system	Then you must monitor	At these locations for each treatment plant ^{1,2}
(1) Subpart H serving $\geq 10,000$	Approximately every 60 days for one year (six monitoring periods).	Eight dual sample sets per monitoring period at locations other than subpart L TTHM/HAA5 monitoring locations based on conditions: If CHLORINE is used as residual disinfectant: one near distribution system entry point, two at average residence time, five at points representative of highest expected TTHM (three sites) and HAA5 concentration (two sites). If CHLORAMINE is used as residual disinfectant for any part of the year: two near distribution system entry point, two at average residence time, four at points representative of highest expected TTHM (two sites) and HAA5 concentration (two sites).
(2) Subpart H serving 500-9,999.	Approximately every 90 days for one year (four monitoring periods).	Two dual sample sets per monitoring period at locations other than the for one year subpart L TTHM/HAA5 monitoring location; one each representative of expected high periods) TTHM level and HAA5 level.
(3) Subpart H serving <500	Approximately every 180 days for one year (two monitoring periods).	Two dual sample sets per monitoring period at locations other than the subpart L TTHM/HAA5 monitoring location; one each representative of expected high periods) TTHM level and HAA5 level.
(4) Ground water serving $\geq 10,000$.	Approximately every 90 days for one year (four monitoring periods).	Two dual sample sets per monitoring period at locations other than the subpart L TTHM/HAA5 monitoring location; one each representative of expected high periods) TTHM level and HAA5 level.
(5) Ground water serving < 10,000.	Approximately every 180 days for one year (two monitoring periods).	Two dual sample sets per monitoring period at locations other than the subpart L TTHM/HAA5 monitoring location; one each representative of expected high periods) TTHM level and HAA5 level.
(6) Consecutive system	At a frequency based on source water and your population ³ .	<ul style="list-style-type: none"> For a consecutive system that buys all its finished water, number of samples and locations as specified in paragraph (b) of this section. For a consecutive system that buys some, but not all, of its finished water, serves $\geq 10,000$, and receives water from a subpart H system: at IDSE locations required of a subpart H system serving $\geq 10,000$. For a consecutive system that does not meet any other criteria in this paragraph: two dual sample sets per monitoring period at locations other than the subpart L TTHM/HAA5 compliance monitoring location; one each representative of expected high TTHM levels and HAA5 levels.

¹ Including treatment plants for consecutive system entry points that operate for at least 60 consecutive days.

² The State may require additional monitoring.

³ You must monitor at the frequency required of a subpart H system with your population if you deliver any water required to be treated under subpart H. You must monitor at the frequency required of a ground water system with your population if you deliver no water required to be treated under subpart H.

(b) *IDSE monitoring for consecutive systems that buy all their water.*

IDSE MONITORING LOCATIONS FOR CONSECUTIVE SYSTEMS THAT BUY ALL THEIR WATER

Population category	Number of dual sample set locations per monitoring period	Distribution system dual sample set locations ¹			
		Near entry points ²	Average residence time	Highest TTHM locations	Highest HAA5 locations
Subpart H Consecutive Systems that buy all their water					
<500 ³	2			1	1
500 to 4,999 ⁴	2			1	1
5,000 to 9,999 ⁴	4		1	2	1
10,000 to 24,999 ⁵	8	1	2	3	2
25,000 to 49,999 ⁵	12	2	3	4	3
50,000 to 99,999 ⁵	16	3	4	5	4
100,000 to 499,999 ⁵	24	4	6	8	6
500,000 to 1,499,999 ⁵	32	6	8	10	8
1,500,000 to 4,999,999 ⁵	40	8	10	12	10
>=5,000,000 ⁵	48	10	12	14	12

IDSE MONITORING LOCATIONS FOR CONSECUTIVE SYSTEMS THAT BUY ALL THEIR WATER—Continued

Population category	Number of dual sample set locations per monitoring period	Distribution system dual sample set locations ¹			
		Near entry points ²	Average residence time	Highest TTHM locations	Highest HAA5 locations
Ground Water Consecutive Systems that buy all their water					
<500 ³	2			1	1
500 to 9,999 ⁴	2			1	1
10,000 to 99,999 ⁴	6	1	1	2	2
100,000 to 499,999 ⁴	8	1	1	3	3
≥500,000 ⁴	12	2	2	4	4

¹ Sampling locations to be distributed through distribution system. You may not use subpart L compliance monitoring locations as IDSE sample sites. You must collect a dual sample set at each sample location.

² If the actual number of entry points to the distribution system is fewer than the specified number of "near entry point" sampling sites, take additional samples equally at highest TTHM and HAA5 locations. If there is an odd extra location number, take the odd sample at highest TTHM location. If the actual number of entry points to the distribution system is more than the specified number of sampling locations, take samples first at subpart H entry points to the distribution system having the highest water flows and then at ground water entry points to the distribution system having the highest water flows.

³ You must conduct monitoring during two monitoring periods approximately 180 days apart.

⁴ You must conduct monitoring during four monitoring periods approximately 90 days apart.

⁵ You must conduct monitoring during six monitoring periods approximately 60 days apart.

(c) You must prepare an IDSE monitoring plan prior to starting IDSE monitoring and implement that plan. In the plan, you must identify specific monitoring locations and dates that meet the criteria in paragraphs (a) and (b) of this section, as applicable.

§ 141.603 Alternatives other than IDSE monitoring.

In lieu of IDSE monitoring under § 141.602, you may use one of the alternatives identified in paragraphs (a) through (c) of this section for which you qualify to comply with this subpart.

(a) *System-specific study.* You may perform an IDSE study based on system-specific monitoring or system-specific data if such a study identifies equivalent or superior monitoring sites representing high TTHM and HAA5 levels as would be identified by IDSE monitoring under § 141.602. You must submit an IDSE report that complies with § 141.604.

(b) *40/30 certification.* In order to qualify for the 40/30 certification, you must not have had any TTHM or HAA5 monitoring violations during the periods specified in paragraphs (b)(1) through (b)(3) of this section.

(1) You are not required to comply with § 141.602 or paragraph (a) of this section if you certify to your State that all compliance samples under subpart L in 2002 and 2003 (for subpart H systems serving ≥10,000 people) or in 2004 and 2005 (for systems serving <10,000 people that are not required to submit an IDSE report by [date 24 months following publication of final rule]) were ≤0.040 mg/L for TTHM and ≤0.030 mg/L for HAA5.

(2) If you are a ground water system serving ≥10,000 people, you are not required to comply with § 141.602 or paragraph (a) of this section if you certify to your State that all TTHM samples taken under § 141.30 in 2003 are ≤0.040 mg/L and that all TTHM and HAA5 compliance samples taken under subpart L during 2004 are ≤0.040 mg/L and ≤0.030 mg/L, respectively.

(3) If you are a consecutive system serving <10,000 required to submit an IDSE report by [date 24 months following publication of final rule], you are not required to comply with § 141.602 or paragraph (a) of this section if you certify to your State that all TTHM and HAA5 compliance samples taken under subpart L during 2004 are ≤0.040 mg/L and ≤0.030 mg/L, respectively.

(4) You must submit an IDSE report that complies with § 141.604 and contains the required certification.

(c) *Very small system waiver.* If you serve fewer than 500 people, the State may waive IDSE monitoring if the State determines that the TTHM and HAA5 monitoring site for each plant under § 141.132 is sufficient to represent both the highest TTHM and the highest HAA5 concentration in your distribution system. If your IDSE monitoring is waived, you are not required to submit an IDSE report. You must monitor under subpart V during the same month and at the same location as used for compliance sampling in subpart L.

§ 141.604 IDSE reports.

You must submit your IDSE report to the State according to the schedule in § 141.600(c).

(a) If you complied by meeting the provisions of §§ 141.602 or 141.603(a), your IDSE report must include the elements required in paragraphs (a)(1) through (a)(3) of this section.

(1) Your report must include all TTHM and HAA5 analytical results from subpart L compliance monitoring conducted during the period of the IDSE presented in a tabular or spreadsheet format acceptable to the State. Your report must also include a schematic of your distribution system, with results, location, and date of all IDSE monitoring, system-specific study monitoring, and subpart L compliance samples noted.

(2) If you conducted IDSE monitoring under § 141.602, your report must include all IDSE TTHM and HAA5 analytical results presented in a tabular or spreadsheet format acceptable to the State. Your report must also include all additional data you relied on to justify IDSE monitoring site selection, plus your original monitoring plan developed under § 141.602(c) and an explanation of any deviations from that plan.

(3) If you used the system-specific study alternative in § 141.603(a), your report must include the basis (studies, reports, data, analytical results, modeling) by which you determined that the recommended subpart V monitoring sites representing high TTHM and HAA5 levels are comparable or superior to those that would otherwise have been identified by IDSE

monitoring under § 141.602. Your report must also include an analysis that demonstrates that your system-specific study characterized expected TTHM and HAA5 levels throughout your entire distribution system.

(b) If you meet the 40/30 certification criteria in § 141.603(b), your IDSE report must include all TTHM and HAA5 analytical results from compliance monitoring used to qualify for the 40/30 certification and a schematic of your distribution system (with results, location, and date of all compliance samples noted). You must also include results of those compliance samples taken after the period used to qualify for the 40/30 certification for State review.

(c) Your IDSE report must include your recommendations and justification for where and during what month(s) TTHM and HAA5 monitoring for Subpart V should be conducted. You must base your recommendations on the criteria in § 141.605. Your IDSE report must also include the population served; system type (subpart H or ground water); whether your system is a consecutive system; and, if you conducted plant-based monitoring, the number of treatment plants and consecutive system entry points.

(d) *Recordkeeping.* You must retain a complete copy of your IDSE report submitted under § 141.604 for 10 years after the date that you submitted your IDSE report. If the State modifies the monitoring requirements that you recommended in your IDSE report or if the State approves alternative monitoring sites, you must keep a copy of the State's notification on file for 10 years after the date of the State's notification. You must make the IDSE report and any State notification available for review by the State or the public.

§ 141.605 Subpart V monitoring location recommendations to the State.

(a) Subpart H systems serving at least 10,000 people. If you are a system

required to take four dual sample sets per treatment plant per quarter under routine monitoring under § 141.621, you must base your recommendations on the locations in the distribution system where you expect to find the highest TTHM and HAA5 LRAAs. In determining the highest LRAA, you must evaluate both subpart L compliance data and IDSE data. For each plant, you must recommend locations with:

(1) The two highest TTHM locational running annual averages;

(2) The highest HAA5 locational running annual average; and

(3) An existing subpart L compliance monitoring location identified in the § 141.132(f) monitoring plan that is the location of either the highest TTHM or HAA5 LRAA among the three compliance monitoring locations representative of average residence time (by calculating an LRAA for each compliance monitoring location using the compliance monitoring results collected during the period of the IDSE).

(4) You may recommend locations other than those in paragraphs (a)(1) through (3) of this section if you include a rationale for selecting other locations. If the State approves, you must monitor at these locations to determine compliance under subpart V.

(5) If any of the criteria in this paragraph (a) of this section would cause fewer than four locations per treatment plant to be recommended, you must identify an additional location(s) with the next highest HAA5 LRAA.

(b) *All groundwater systems and subpart H systems serving fewer than 10,000 people.* If you are a system required to take two dual sample sets per treatment plant per quarter or per year or one TTHM and one HAA5 sample per plant per year for routine monitoring under § 141.621, you must select the locations with the highest TTHM locational running annual average and highest HAA5 locational running annual average, unless you

include a rationale for selecting other locations. If the State approves, you must monitor at these other locations to determine compliance under subpart V. If any of the criteria in this paragraph would cause only one location per treatment plant to be recommended, you must identify an additional location with the next highest HAA5 LRAA or request that you be allowed to monitor only at that location.

(c) *Systems that qualify for the 40/30 certification.* If you use the 40/30 certification in § 141.603(b), you may use either subpart L compliance monitoring locations or you may identify monitoring locations for Subpart V that are different from those for subpart L. You must include a rationale for changing existing subpart L locations, choosing locations with a long residence time and a detectable residual. If you choose monitoring locations other than those in subpart L as subpart V compliance monitoring locations, you must retain the subpart L locations with the highest TTHM and HAA5 LRAAs. If any of the criteria in this paragraph would cause only one location per treatment plant to be recommended, you must identify an additional location with the next highest HAA5 LRAA or request that you be allowed to monitor only at that location. If you are required to monitor at more locations under subpart V of this part than under subpart L of this part, you must identify additional locations with a long residence time and a detectable residual.

(d) *Consecutive systems that buy some, but not all, of their finished water.* Your recommendations must comply with §§ 141.601(d) and 141.605 (a) through (c).

(e) *Consecutive systems that buy all their finished water.*

(1) You must select the number of monitoring locations specified in the following tables.

SUBPART V.—SAMPLE FREQUENCY FOR TTHM/HAA5 (AS DUAL SAMPLE SETS) FOR CONSECUTIVE SYSTEMS THAT BUY ALL THEIR WATER

Population	Number of samples
Subpart H Consecutive Systems That Buy All Their Water	
<500	1 TTHM and 1 HAA5 sample per year at different locations and time if the highest TTHM and HAA5 occurred at different locations and/or time or 1 dual sample set per year if the highest TTHM and HAA5 occurred at the same location and time of year, taken during the peak historical month for DBP concentrations or (if unknown) month of warmest water temperature.
500 to 4,999	1 TTHM and 1 HAA5 sample per quarter at different locations if the highest TTHM and HAA5 occurred at different locations or 1 dual sample set per quarter if the highest TTHM and HAA5 occurred at the same location.
5,000 to 9,999	2 dual sample sets per quarter.
10,000 to 24,999	4 dual sample sets per quarter.
25,000 to 49,999	6 dual sample sets per quarter.
50,000 to 99,999	8 dual sample sets per quarter.

SUBPART V.—SAMPLE FREQUENCY FOR TTHM/HAA5 (AS DUAL SAMPLE SETS) FOR CONSECUTIVE SYSTEMS THAT BUY ALL THEIR WATER—Continued

Population	Number of samples
100,000 to 499,999	12 dual sample sets per quarter.
500,000 to 1,499,999	16 dual sample sets per quarter.
1,500,000 to 4,999,999	20 dual sample sets per quarter.
≥5,000,000	24 dual sample sets per quarter.
Ground Water Consecutive Systems That Buy All Their Water	
<500	1 TTHM and 1 HAA5 sample per year at different locations and time if the highest TTHM and HAA5 occurred at different locations and/or time or 1 dual sample set per year if the highest TTHM and HAA5 occurred at the same location and time of year, taken during the peak historical month for DBP concentrations, or, if unknown, during month of warmest water temperature.
500 to 9,999	2 dual sample sets per year. Must be taken during the peak historical month for DBP concentrations.
10,000 to 99,999	4 dual sample sets per quarter.
100,000 to 499,999	6 dual sample sets per quarter.
≥500,000	8 dual sample sets per quarter.

(2) You must select Subpart V monitoring locations based on subpart L compliance monitoring results collected during the period of the IDSE and IDSE monitoring results. You must follow the protocol in paragraphs (e)(2)(i) through (iv) of this section, unless you provide a rationale for recommending different locations. If required to monitor at more than four locations, you must repeat the protocol as necessary, alternating between sites with the highest HAA5 LRAA and the highest TTHM LRAA not previously selected as a subpart V monitoring location for choosing locations under paragraph (e)(2)(iii) of this section.

(i) Location with the highest TTHM LRAA not previously selected as a subpart V monitoring location.

(ii) Location with the highest HAA5 LRAA not previously selected as a subpart V monitoring location.

(iii) Existing subpart L average residence time compliance monitoring location.

(iv) Location with the highest TTHM LRAA not previously selected as a subpart V monitoring location.

(3) You may recommend locations other than those in paragraph (e)(2) of this section if you include a rationale for selecting other locations. If the State approves, you must monitor at these locations to determine compliance under subpart V.

(4) If you used the 40/30 certification in § 141.603(b) and do not have

sufficient subpart L monitoring locations to identify the required number of Subpart V compliance monitoring locations, you must identify additional locations by selecting a site representative of maximum residence time and then a site representative of average residence time and repeating until the required number of compliance monitoring locations have been identified.

(f) You must schedule samples during the peak historical month for TTHM and HAA5 concentration, unless the State approves another month. Once you have identified the peak historical month, and if you are required to conduct routine monitoring at least quarterly, you must schedule subpart V compliance monitoring at a regular frequency of approximately every 90 days or fewer.

18. Part 141 is amended by adding new subpart V to read as follows:

Subpart V—Stage 2B Disinfection Byproducts Requirements

Sec.

141.620 General requirements.

141.621 Routine monitoring.

141.622 Subpart V monitoring plan.

141.623 Reduced monitoring.

141.624 Additional requirements for consecutive systems.

141.625 Conditions requiring increased monitoring.

141.626 Significant excursions.

141.627 Requirements for remaining on reduced TTHM and HAA5 monitoring based on subpart L results.

141.628 Requirements for remaining on increased TTHM and HAA5 monitoring based on subpart L results.

141.629 [Reserved]

141.630 Reporting and recordkeeping requirements.

Subpart V—Stage 2B Disinfection Byproducts Requirements

§ 141.620 General requirements.

(a) The requirements of subpart V constitute national primary drinking water regulations. These regulations establish requirements for control of certain disinfection byproducts that supercede some requirements in subpart L and that are *in addition* to other requirements that are currently required under subpart L of this part. The regulations in this subpart establish monitoring and other requirements for achieving compliance with maximum contaminant levels for total trihalomethanes (TTHM) and haloacetic acids (five)(HAA5).

(b) *Applicability.* You are subject to these requirements if your system is a community water system or nontransient noncommunity water system that adds a primary or residual disinfectant other than ultraviolet light or delivers water that has been treated with a primary or residual disinfectant other than ultraviolet light.

(c) *Schedule.* You must comply with the requirements in this subpart on the schedule in the following table, based on your system type.

If you are this type of system	You must comply with subpart V by: ^{1 2 3}
(1) Subpart H serving ≥10,000	[date 72 mos following publication of final rule].
(2) Subpart H serving <10,000	[date 90 mos following publication of final rule] if no <i>Cryptosporidium</i> monitoring is required under § 141.706(c) OR [date 102 mos following publication of final rule] if <i>Cryptosporidium</i> monitoring is required under § 141.706(c).
(3) Ground water serving ≥10,000	[date 72 mos following publication of final rule].
(4) Ground water serving <10,000	[date 90 mos following publication of final rule].

If you are this type of system	You must comply with subpart V by: ^{1 2 3}
(5) Consecutive system	—at the same time as the system with the earliest compliance date in the combined distribution system.

¹ The State may grant up to an additional 24 months for compliance if you require capital improvements.

² If you are required to conduct quarterly monitoring, you must begin monitoring in the first full calendar quarter that follows the compliance date in this table. If you are required to conduct monitoring at a frequency that is less than quarterly, you must begin monitoring in the calendar month recommended in the IDSE report prepared under § 141.604 no later than 12 months after the compliance date in this table. If you are not required to submit an IDSE report, you must begin monitoring during the calendar month identified in the monitoring plan developed under § 141.622 no later than 12 months after the compliance date.

³ If you are required to conduct quarterly monitoring, you must make compliance calculations at the end of the fourth calendar quarter that follows the compliance date and at the end of each subsequent quarter (or earlier if the LRAA calculated based on fewer than four quarters of data would cause the MCL to be exceeded regardless of the monitoring results of subsequent quarters). If you are required to conduct monitoring at a frequency that is less than quarterly, you must make compliance calculations beginning with the first compliance sample taken after the compliance date.

(d) *Monitoring and compliance.* You must monitor at sampling locations identified in your monitoring plan developed under § 141.622. To determine compliance with subpart V MCLs, you must calculate locational running annual averages for TTHM and HAA5 using monitoring results collected under this subpart. If you fail to complete four consecutive quarters of monitoring, you must calculate compliance with the MCL based on an average of the available data from the most recent four quarters.

(e) *Violations.* You must comply with specific monitoring and reporting requirements. Failure to monitor in accordance with the monitoring plan required under § 141.622 is a monitoring violation. Failure to monitor will also be treated as a monitoring violation for the entire period covered by a locational running annual average compliance calculation for the subpart V MCLs in § 141.64(b)(3).

(f) *Additional provisions.*

(1) You may consider multiple wells drawing water from a single aquifer as one treatment plant for determining the minimum number of TTHM and HAA5 samples required, with State approval in accordance with criteria developed under § 142.16(h)(5) of this chapter. Approvals made under §§ 141.132(a)(2) and 141.601(d) remain in effect unless withdrawn by the State.

(2) *Consecutive systems.* For the purposes of this subpart, you must determine whether you buy all or some of your water based on your categorization for the IDSE under subpart U, unless otherwise directed by the State. If you were not categorized under subpart U, you must determine whether you buy all or some of your water based on your categorization during 2005, unless otherwise directed by the State.

(3) For the purposes of determining monitoring requirements of this subpart, each consecutive system entry point from a wholesale system to a

consecutive system that buys some, but not all, of its finished water is considered a treatment plant for that consecutive system.

(i) You may request that the State allow multiple consecutive system entry points from a single wholesale system to a single consecutive system to be considered one treatment plant.

(ii) In the request to the State for approval of multiple consecutive system entry points to be considered one treatment plant, you must demonstrate that factors such as relative locations of entry points, detention times, sources, and the presence of treatment (such as corrosion control or booster disinfection) will have a minimal differential effect on TTHM and HAA5 formation associated with individual entry points.

§ 141.621 Routine monitoring.

(a) You must monitor at the locations and frequencies listed in the following table.

If you are this type of system	Then you must monitor	At these locations for each treatment plant ¹
(1) Subpart H serving ≥10,000.	four dual sample sets per quarter per treatment plant, taken approximately every 90 days. One quarterly set must be taken during the peak historical month for DBP concentrations ² .	—locations recommended to the State in the IDSE report submitted under subpart U.
(2) Subpart H serving 500–9,999.	two dual sample sets per quarter per treatment plant, taken approximately every 90 days. One quarterly set must be taken during the peak historical month for DBP concentrations ² .	—locations recommended to the State in the IDSE report submitted under subpart U. ³
(3) Subpart H serving <500	one TTHM and one HAA5 sample per year per treatment plant, taken during the peak historical month for DBP concentrations.	—locations recommended to the State in the IDSE report submitted under subpart U. ⁴
(4) Ground water serving ≥10,000.	two dual sample sets per quarter per treatment plant, taken approximately every 90 days. One quarterly set must be taken during the peak historical month for DBP concentrations ² .	—locations recommended to the State in the IDSE report submitted under subpart U. ³
(5) Ground water serving 500–9,999.	two dual sample sets per year per treatment plant, taken during the peak historical month for DBP concentrations ² .	—locations recommended to the State in the IDSE report submitted under subpart U. ³
(6) Ground water serving <500.	one TTHM and one HAA5 sample per year per treatment plant, taken during the peak historical month for DBP concentrations.	—locations recommended to the State in the IDSE report submitted under subpart U. ⁴
(7) Consecutive system that buys some, but not all, of its finished water.	based on your own population and source water, except that consecutive systems that receive water from a subpart H system must monitor as a subpart H system.	—locations recommended to the State in the IDSE report submitted under subpart U.

If you are this type of system	Then you must monitor	At these locations for each treatment plant ¹
(8) Consecutive system that buys all its finished water.	as specified in § 141.605(e)	—locations recommended to the State in the IDSE report submitted under subpart U.

¹ Unless the State has approved or required other locations or additional locations based on the IDSE report or other information, or you have updated the monitoring plan under § 141.622.

² A dual sample set is a set of two samples collected at the same time and same location, with one sample analyzed for TTHM and the other sample analyzed for HAA5.

³ If you have a single location that has both the highest TTHM LRAA and highest HAA5 LRAA, you may take a dual sample set only at that location after approval by the State.

⁴ You are required to sample for both TTHM and HAA5 at one location if that location is the highest for both TTHM and HAA5. If different locations have high TTHM and HAA5 LRAs, you may sample for TTHM only at the high TTHM location and for HAA5 only at the high HAA5 location. If you have received a very small system waiver for IDSE monitoring from the State under § 141.603(c), you must monitor for TTHM and HAA5 as a dual sample set at the subpart L monitoring location (a point representative of maximum residence time) during the month of warmest water temperature.

(b) You must begin monitoring at the locations you have recommended in your IDSE report submitted under § 141.604 following the schedule in § 141.620(c), unless the State requires other locations or additional locations after its review. If you have received a very small system waiver under § 141.603(c), you must monitor at the location(s) identified in your monitoring plan in § 141.132(f), updated as required by § 141.622.

(c) You must use an approved method listed in § 141.131 for TTHM and HAA5 analyses in this subpart. Analyses must be conducted by laboratories that have received certification by EPA or the State as specified in § 141.131.

§ 141.622 Subpart V monitoring plan.

(a) You must develop and implement a monitoring plan to be kept on file for State and public review. You may comply by updating the monitoring plan developed under § 141.132(f) no later than the date identified in § 141.620(c) for subpart V compliance. If you have received a very small system waiver under § 141.603(c), you must comply by updating the monitoring plan developed

under § 141.132(f) no later than the date identified in § 141.620(c) for subpart V compliance. The monitoring plan must contain the elements in paragraphs (a)(1) through (a)(5) of this section:

- (1) Monitoring locations;
- (2) Monitoring dates;
- (3) Compliance calculation

procedures;

(4) Monitoring plans for any other systems in the combined distribution system if monitoring requirements have been modified based on data from other systems; and

(5) Any permits, contracts, or agreements with third parties (including other PWSs, laboratories, and State agencies) to sample, analyze, report, or perform any other system requirement in this subpart.

(b) The monitoring plan will reflect the recommendations of the IDSE report required under subpart U, along with any State-mandated modifications. The State must approve any monitoring sites for which you are required to provide a rationale in your IDSE report by § 141.605(a)(4).

(c) If you are a subpart H system serving more than 3,300 people, you

must submit a copy of your monitoring plan to the State prior to the date you are required to comply with the monitoring plan.

(d) You may modify your monitoring plan to reflect changes in treatment, distribution system operations and layout (including new service areas), or other factors that may affect TTHM or HAA5 formation. If you change monitoring locations, you must replace locations with the lowest LRAA and notify the State how new sites were selected as part of the next report due under § 141.630. The State may also require modifications in your monitoring plan.

§ 141.623 Reduced monitoring.

(a) *Systems other than consecutive systems that buy all their water.* You may reduce monitoring by meeting the criteria in the table in this paragraph at all treatment plants in the system. You may only use data collected under the provisions of this subpart or subpart L of this part to qualify for reduced monitoring.

If you are this type of system	Then you may reduce monitoring if you have monitoring results under § 141.621 and	To reduce monitoring per plant at these locations/frequency	
		TTHM	HAA5
(1) Subpart H serving ≥10,000.	—the LRAA is ≤0.040 mg/L for TTHM and ≤0.030 for HAA5 at ALL monitoring locations, AND —the source water annual average TOC level, before any treatment, is ≤4.0 mg/L at each subpart H treatment plant ¹ .	—monitor once per quarter by taking a dual sample set at the location with the highest TTHM LRAA or single measurement.	—monitor once per quarter by taking a dual sample set at the location with the highest HAA5 LRAA or single measurement.
(2) Subpart H serving 500–9,999.	—the LRAA is ≤0.040 mg/L for TTHM and ≤0.030 for HAA5 at ALL monitoring locations, AND —the source water annual average TOC level, before any treatment, is ≤4.0 mg/L at each subpart H treatment plant ¹ .	—monitor once per year by taking a dual sample set at the location with the highest TTHM single measurement during the quarter that the highest single TTHM measurement occurred ² .	—monitor once per year by taking a dual sample set at the location with the highest HAA5 single measurement during the quarter that the highest single HAA5 measurement occurred ² .
(3) Subpart H serving <500.	—monitoring may not be reduced to fewer than one TTHM sample and one HAA5 sample per year.	not applicable	not applicable.
(4) Ground water serving ≥10,000.	—the LRAA is ≤0.040 mg/L for TTHM and ≤0.030 for HAA5 at ALL monitoring locations.	—monitor once per year by taking a dual sample set at the location with the highest TTHM single measurement during the quarter that the highest single TTHM measurement occurred ² .	—monitor once per year by taking a dual sample set at the location with the highest HAA5 single measurement during the quarter that the highest single HAA5 measurement occurred ² .

If you are this type of system	Then you may reduce monitoring if you have monitoring results under § 141.621 and	To reduce monitoring per plant at these locations/frequency	
		TTHM	HAA5
(5) Ground water serving 500–9,999.	—the LRAA is ≤ 0.040 mg/L for TTHM and ≤ 0.030 for HAA5 at ALL monitoring locations.	—monitor once every third year by taking a dual sample set at the location with the highest TTHM single measurement during the quarter that the highest single TTHM measurement occurred ² .	—monitor once every third year by taking a dual sample set at the location with the highest HAA5 single measurement during the quarter that the highest single HAA5 measurement occurred ² .
(6) Ground water serving <500.	—the LRAA is ≤ 0.040 mg/L for TTHM and ≤ 0.030 for HAA5 at ALL monitoring locations.	—monitor once every third year for TTHM at the location with the highest TTHM single measurement during the quarter that the highest single TTHM measurement occurred ² .	—monitor once every third year for HAA5 at the location with the highest HAA5 single measurement during the quarter that the highest single HAA5 measurement occurred ² .
(7) Consecutive system that buys some, but not all, of its finished water ³ .	—the LRAA is ≤ 0.040 mg/L for TTHM and ≤ 0.030 for HAA5 at ALL monitoring locations.	—monitor at the location(s) and frequency associated with a non-consecutive system with the same population and source water type.	—monitor at the location(s) and frequency associated with a non-consecutive system with the same population and source water type. ²

¹ TOC monitoring must comply with the provisions of either § 141.132(d) or § 141.132(e).

² If your location for reduced monitoring for TTHM and HAA5 is the same location and if your quarter for the highest TTHM and HAA5 single measurement is the same, you may take one dual sample set at that location during that quarter.

³ Consecutive systems that buy some, but not all, of their finished water may reduce monitoring based on their own population and their wholesale system(s)'s source water type to the frequency and location(s) required in this section, unless the consecutive system treats surface water or ground water under the direct influence of surface water. If the consecutive system treats surface water or ground water under the direct influence of surface water, it must base reduced monitoring on its population and classification as a subpart H system.

(b) *Consecutive systems that buy all their water.* You may reduce monitoring to the level specified in the table in this paragraph if the LRAA is ≤ 0.040 mg/L for TTHM and ≤ 0.030 mg/L for HAA5 at all monitoring locations. You may only use data collected under the provisions of this subpart or subpart L of this part to qualify for reduced monitoring.

REDUCED MONITORING FREQUENCY FOR CONSECUTIVE SYSTEMS THAT BUY ALL THEIR WATER.

Population	Reduced monitoring frequency and location
Subpart H systems	
<500	Monitoring may not be reduced.
500 to 4,999	1 TTHM and 1 HAA5 sample per year at different locations or during different quarters if the highest TTHM and HAA5 measurements occurred at different locations or different quarters or 1 dual sample set per year if the highest TTHM and HAA5 measurements occurred at the same location and quarter.
5,000 to 9,999	2 dual sample sets per year; one at the location with the highest TTHM single measurement during the quarter that the highest single TTHM measurement occurred, one at the location with the highest HAA5 single measurement during the quarter that the highest single HAA5 measurement occurred.
10,000 to 24,999	2 dual sample sets per quarter at the locations with the highest TTHM and highest HAA5 LRAAs.
25,000 to 49,999	2 dual sample sets per quarter at the locations with the highest TTHM and highest HAA5 LRAAs.
50,000 to 99,000	4 dual sample sets per quarter—at the locations with the two highest TTHM and two highest HAA5 LRAAs.
100,000 to 499,999	4 dual sample sets per quarter—at the locations with the two highest TTHM and two highest HAA5 LRAAs.
500,000 to 1,499,999	6 dual sample sets per quarter—at the locations with the three highest TTHM and three highest HAA5 LRAAs.
1,500,000 to 4,999,999	6 dual sample sets per quarter—at the locations with the three highest TTHM and three highest HAA5 LRAAs.
>=5,000,000	8 dual sample sets per quarter at the locations with the four highest TTHM and four highest HAA5 LRAAs.
Ground water systems	
<500	1 TTHM and 1 HAA5 sample every third year at different locations and time if the highest TTHM and HAA5 measurements occurred at different locations and/or time or 1 dual sample set every third year if the highest TTHM and HAA5 measurements occurred at the same location and time of year.
500 to 9,999	1 TTHM and 1 HAA5 sample every year at different locations and time if the highest TTHM and HAA5 measurements occurred at different locations and/or time or 1 dual sample set every year if the highest TTHM and HAA5 measurements occurred at the same location and time of year.
10,000 to 99,000	2 dual sample sets per year; one at the location with the highest TTHM single measurement during the quarter that the highest single TTHM measurement occurred and one at the location with the highest HAA5 single measurement during the quarter that the highest single HAA5 measurement occurred.
100,000 to 499,999	2 dual sample sets per quarter; at the locations with the highest TTHM and highest HAA5 LRAAs.
≥500,000	4 dual sample sets per quarter; at the locations with the two highest TTHM and two highest HAA5 LRAAs.

(c) You may remain on reduced monitoring as long as the TTHM LRAA ≤ 0.040 mg/L and the HAA5 LRAA ≤ 0.030 mg/L at each monitoring location (for systems with quarterly monitoring) or each TTHM sample ≤ 0.060 mg/L and each HAA5 sample ≤ 0.045 mg/L (for systems with annual or less frequent monitoring). In addition, the source

water annual average TOC level, before any treatment, must be ≤ 4.0 mg/L at each treatment plant treating surface water or ground water under the direct influence of surface water, based on monitoring conducted under either §§ 141.132(d) or 141.132(e). If the LRAA at any location exceeds either 0.040 mg/L for TTHM or 0.030 mg/L for HAA5 or

if the annual (or less frequent) sample at any location exceeds either 0.060 mg/L for TTHM or 0.045 mg/L for HAA5, or if the source water annual average TOC level, before any treatment, > 4.0 mg/L at any treatment plant treating surface water or ground water under the direct influence of surface water, the system must resume routine monitoring

under § 141.621 for all treatment plants or begin increased monitoring for all treatment plants if § 141.625 applies.

(d) The State may return your system to routine monitoring at the State's discretion.

§ 141.624 Additional requirements for consecutive systems.

If you are a consecutive system that does not add a disinfectant but delivers water that has been disinfected with other than ultraviolet light, you must comply with monitoring requirements for chlorine and chloramines in § 141.132(c)(1) and the compliance requirements in § 141.133(c)(1) beginning [date three years after publication of final rule] and report monitoring results under § 141.134(c), unless required earlier by the State.

§ 141.625 Conditions requiring increased monitoring.

(a) If you are required to monitor at a particular location yearly or less frequently than yearly under §§ 141.621 or 141.623, you must increase monitoring to dual sample sets once per quarter (taken approximately every 90 days) at all locations if either the annual (or less frequent) TTHM sample >0.080 mg/L or the annual (or less frequent) HAA5 sample >0.060 mg/L at any location.

(b) You are not in violation of the MCL until the LRAA calculated based on four consecutive quarters of monitoring (or the LRAA calculated based on fewer than four quarters of data if the MCL would be exceeded regardless of the monitoring results of subsequent quarters) exceeds the subpart V MCLs in § 141.64(b)(3). You are in violation of the monitoring requirements for each quarter that a monitoring result would be used in calculating an LRAA if you fail to monitor.

(c) You may return to routine monitoring once you have conducted increased monitoring for at least four consecutive quarters and the LRAA for every location is ≤0.060 mg/L for TTHM and ≤0.045 mg/L for HAA5.

§ 141.626 Significant excursions.

If a significant excursion occurs, you must conduct a significant excursion evaluation and prepare a written report of the evaluation no later than 90 days after being notified of the analytical result that shows the significant excursion. You must discuss the evaluation with the State no later than the next sanitary survey for your system. Your evaluation must include an examination of distribution system operational practices that may

contribute to TTHM and HAA5 formation (such as flushing programs and storage tank operations and excess capacity) and how these practices may be modified to reduce TTHM and HAA5 levels.

§ 141.627 Requirements for remaining on reduced TTHM and HAA5 monitoring based on subpart L results.

You may remain on reduced monitoring after the dates identified in § 141.620(c) for compliance with this subpart only if you qualify for a 40/30 certification under § 141.603(b) or have received a very small system waiver under § 141.603(c), plus you meet the reduced monitoring criteria in § 141.623(c), and you do not change or add monitoring locations from those used for compliance monitoring under subpart L. If your monitoring locations under this subpart differ from your monitoring locations under subpart L, you may not remain on reduced monitoring after the dates identified in § 141.620(c) for compliance with this subpart.

§ 141.628 Requirements for remaining on increased TTHM and HAA5 monitoring based on subpart L results.

If you were on increased monitoring under subpart L, you must remain on increased monitoring until you qualify for a return to routine monitoring under § 141.625(c). You must conduct increased monitoring under § 141.625 at the monitoring locations in the monitoring plan developed under § 141.622 beginning at the date identified in § 141.620(c) for compliance with this subpart and remain on increased monitoring until you qualify for a return to routine monitoring under § 141.625(c).

§ 141.629 [Reserved]

§ 141.630 Reporting and recordkeeping requirements.

(a) *Reporting.* (1) You must report the following information for each monitoring location to the State within 10 days of the end of any quarter in which monitoring is required:

(i) Number of samples taken during the last quarter.

(ii) Date and results of each sample taken during the last quarter.

(iii) Arithmetic average of quarterly results for the last four quarters (LRAAs).

(iv) Whether the MCL was violated.

(2) If you are a subpart H system seeking to qualify for or remain on reduced TTHM/HAA5 monitoring, you must report the following source water TOC information for each treatment plant that treats surface water or ground

water under the direct influence of surface water to the State within 10 days of the end of any quarter in which monitoring is required:

(i) The number of source water TOC samples taken each month during last quarter.

(ii) The date and result of each sample taken during last quarter.

(iii) The quarterly average of monthly samples taken during last quarter.

(iv) The running annual average (RAA) of quarterly averages from the past four quarters.

(v) Whether the RAA exceeded 4.0 mg/L.

(b) *Recordkeeping.* You must retain any subpart V monitoring plans and your subpart V monitoring results as required by § 141.33.

PART 142— NATIONAL PRIMARY DRINKING WATER REGULATIONS IMPLEMENTATION

1. The authority citation for part 142 continues to read as follows:

Authority: 42 U.S.C. 300f, 300g–1, 300g–2, 300g–3, 300g–4, 300g–5, 300g–6, 300j–4, 300j–9, and 300j–11.

2. Section 142.14 is amended by adding paragraph (a)(8) to read as follows:

§ 142.14 Records kept by States.

(a) * * *

(8) Any decisions made pursuant to the provisions of 40 CFR part 141, subparts U and V of this chapter.

(i) Those systems for which the State has determined that the 40 CFR part 141, subpart L approved monitoring site is representative of the highest TTHM and HAA5 and therefore have been granted a very small system waiver under § 141.603(c) of this chapter. The State must provide a copy of the decision to the system. A copy of the decision must be kept until reversed or revised.

(ii) System IDSE reports, plus any modifications required by the State. Reports must be kept until reversed or revised in their entirety.

* * * * *

3. Section 142.16 is amended by adding paragraph (m) to read as follows:

§ 142.16 Special primacy conditions.

* * * * *

(m) *Requirements for States to adopt 40 CFR part 141, subparts U and V.* In addition to the general primacy requirements elsewhere in this part, including the requirements that State regulations be at least as stringent as federal requirements, an application for approval of a State program revision that adopts 40 CFR part 141, subparts U

and V, must contain a description of how the State will accomplish the following:

(1) For PWSs serving fewer than 500 people, a very small system waiver procedure for subpart U IDSE requirements that will apply to all systems that serve fewer than 500 people without the State making a system-by-system waiver determination, if the State elects to use such an authority.

(2) A procedure for evaluating system-specific studies under § 141.603(a) of this chapter, if system-specific studies are conducted in the State.

(3) A procedure for determining that multiple consecutive system entry points from a single wholesale system to a single consecutive system should be treated as a single treatment plant for monitoring purposes.

(4) A procedure for addressing consecutive systems outside the provisions of § 141.29 of this chapter or part 141 subparts U and V of this chapter, if the State elects to use such an authority.

(5) A procedure for systems to identify significant excursions.

PART 143—NATIONAL SECONDARY DRINKING WATER REGULATIONS

1. The authority citation for part 143 continues to read as follows:

Authority: 42 U.S.C. 300f *et seq.*

2. In § 143.4, the table in paragraph (b) is amended by revising entries 2 and 9 and footnotes 3 and 4, and by adding footnote 6 to read as follows:

§ 143.4 Monitoring.

* * * * *

(b) * * *

Contaminant	EPA	ASTM ³	SM ⁴ 18th and 19th ed.	SM ⁴ 20th ed.	Other
* * *		*	* * *	* * *	*
2. Chloride	300.0 ¹ 300.1 ⁶	D4327-97	4110 B	4110 B.	
		
		.....	4500-Cl ⁻ D	4500-Cl ⁻ D	
		D512-89B	4500-Cl ⁻ B	4500-Cl ⁻ B	
* * *		*	* * *	* * *	*
9. Sulfate	300.0 ¹ 300.1 ⁶ 375.2 ¹	D4327-97	4110B	4110B.	
		
		.....	4500-SO ₄ ²⁻ F	4500-SO ₄ ²⁻ F.	
		.....	4500-SO ₄ ²⁻ C, D	4500-SO ₄ ²⁻ C, D.	
		D516-90	4500-SO ₄ ²⁻ E	4500-SO ₄ ²⁻ E.	
* * *		*	* * *	* * *	*

¹ "Methods for the Determination of Inorganic Substances in Environmental Samples", EPA/600/R-93-100, August 1993. Available at NTIS, PB94-120821.

³ *Annual Book of ASTM Standards*, 1994, 1996, or 1999, Vols. 11.01 and 11.02, ASTM International; any year containing the cited version of the method may be used. Copies may be obtained from ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428.

⁴ *Standard Methods for the Examination of Water and Wastewater*, 18th edition (1992), 19th edition (1995), or 20th edition (1998). American Public Health Association, 1015 Fifteenth Street, NW, Washington, DC 20005. The cited methods published in any of these three editions may be used, except that the versions of 3111 B, 3111 D, and 3113 B in the 20th edition may not be used.

⁶ "Methods for the Determination of Organic and Inorganic Compounds in Drinking Water", Vol. 1, EPA 815-R-00-014, August 2000. Available at NTIS, PB2000-106981.

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Appendix C

Rule Fact Sheet/ Draft Quick Reference Guide

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Proposed Stage 2 Disinfectants and Disinfection Byproducts Rule

Summary

EPA is proposing the Stage 2 Disinfectants and Disinfection Byproducts Rule (Stage 2 DBPR) to reduce disease incidence associated with the disinfection byproducts that form when public water supply systems add disinfectants. The Stage 2 DBPR will supplement existing regulations by requiring water systems to meet disinfection byproduct maximum contaminant levels (MCLs) at each monitoring site in the distribution system. The proposal also contains a risk-targeting approach to better identify monitoring sites where customers are exposed to high levels of disinfection byproducts (DBPs). This proposed regulation will reduce DBP exposure and provide more equitable health protection, and will result in lower cancer and reproductive and developmental risks.

Background

Chlorine and other chemical disinfectants have been widely used by public water systems as a principal barrier to microbial contaminants in drinking water. DBPs are formed when certain disinfectants interact with organic and inorganic materials in source waters. The levels of DBPs in drinking water can vary significantly from one point in a distribution system to another. Epidemiology and toxicology studies have shown a link between bladder, rectal and colon cancers and DBP exposure. Additionally, human epidemiology and animal toxicology studies report an association between chlorinated drinking water and reproductive and developmental endpoints such as spontaneous abortion, stillbirth, neural tube defects, pre-term delivery, intrauterine growth retardation, and low birth weight. Because of the combined weight of evidence from the health data, and consideration of the large number of people exposed to DBPs (approximately 254 million Americans), EPA has proposed additional DBP control measures beyond those already required for public water systems.

The proposed Stage 2 DBPR reflects a consensus Agreement in Principle of the Stage 2 M-DBP Federal Advisory Committee. This Committee consisted of organizational members representing EPA, State and local public health and regulatory agencies, local elected officials, Indian tribes, large and small drinking water suppliers, chemical and equipment manufacturers, and public interest groups. The Committee's activities resulted in the collection and evaluation of substantial new information. The Committee signed an Agreement in Principle stating the consensus recommendations of the group that was published by EPA in December, 2000.

About this Regulation

The Stage 2 DBPR will protect public health by supplementing existing drinking water regulations with risk-targeted monitoring and compliance determinations for current disinfection byproduct MCLs. This regulation will apply to all systems that add a disinfectant other than ultraviolet light.

Initial Distribution System Evaluation (IDSE): Under the Stage 2 DBPR, systems will conduct an evaluation of their distribution system to identify the locations with high disinfection byproduct concentrations. These locations will then be used by the systems as the sampling sites for DBP compliance monitoring.

Locational Running Annual Average: Under the Stage 2 DBPR, compliance with the maximum contaminant levels for two groups of disinfection byproducts (total trihalomethanes (TTHM) and

haloacetic acids (HAA5)) will be calculated for each monitoring location in the distribution system. This approach, referred to as the locational running annual average (LRAA), differs from current requirements which determine compliance by calculating the running annual average of samples from all monitoring locations across the system.

Other requirements: The Stage 2 DBPR would also require systems to determine if they are experiencing short term peaks in DBP levels referred to as “significant excursions.” Systems experiencing significant excursions would be required to review their operational practices and work with their State to determine actions that may be taken to prevent future excursions.

Environmental and Public Health Benefits

The Stage 2 DBPR will improve the control of disinfection byproducts in drinking water systems with the highest risk levels. EPA estimates that full implementation of the Stage 2 DBPR will reduce the incidence of bladder cancer cases by up to 182 cases per year, with an associated reduction of up to 47 premature deaths. While the Stage 1 DBPR provided a major reduction in DBP exposure, new national survey data suggest that some customers are receiving drinking water with elevated, or peak DBP concentrations even when the average levels in their water distribution systems are in compliance with the Stage 1 DBPR. Some of these peak concentrations can be substantially greater than the Stage 1 DBPR maximum contaminant levels (MCLs). The new survey results also showed that existing Stage 1 DBPR monitoring sites may not be the locations where the highest DBP concentrations occur in distribution systems. EPA’s analysis of this new information concludes that significant public health benefits may be achieved through further cost-effective reduction of DBPs in distribution systems. The new requirements provide for more consistent protection from DBPs across the entire distribution system and the reduction of DBP peaks, requiring only those systems with the greatest risk to make capital improvements. In addition, reduction of reproductive and developmental health effects that may be associated with exposure to elevated DBP levels will come from the provisions of this regulation, though these benefits have not been quantified.

Cost of the Regulation

The Stage 2 DBPR will result in increased costs to public water systems and States. The annual cost of the rule is expected to be \$54.3 to 63.9 million. Public water systems will bear approximately 98 percent (equivalent to \$53.1 to 62.8 million) of this total cost, with States incurring the remaining 2 percent (\$1.1 to 1.2 million). The average annual household cost is estimated to be \$0.51 per year, and over 99 % of households will experience annual costs of less than \$12 per year.

How to Get Additional Information

For general information on the Stage 2 DBPR, contact the Safe Drinking Water Hotline, at (800) 426-4791. For copies of the Federal Register notice of the proposed regulation or technical fact sheets, visit the EPA Safewater website, www.epa.gov/safewater/ndbp/st2/st2dbpr.html. The Safe Drinking Water Hotline is open Monday through Friday, excluding legal holidays, from 9:00 a.m. to 5:30 p.m. Eastern Time.

Proposed Stage 2 Disinfectants and Disinfection Byproducts Rule: A Quick Reference Guide

Overview of the Rule

Title	Stage 2 Disinfectants and Disinfection Byproducts Rule (Stage 2 DBPR) Proposed - 68 FR 49548, August 18, 2003, Vol. 68, No. 159
Purpose	To increase public health protection by reducing the potential risk of adverse health effects associated with disinfection byproducts (DBPs). Builds on the Stage 1 DBPR by focusing on monitoring and reducing peak concentrations of two classes of DBPs - TTHMs and HAA5s - in drinking water.
General Description	Stage 2 DBPR requires systems to complete an Initial Distribution System Evaluation (IDSE) to identify monitoring sites for capturing DBP peaks. Stage 2 DBPR also bases compliance with the TTHM and HAA5 MCLs on a locational running annual average (LRAA) calculation at each sampling location. Systems are still required to comply with the requirements of the Stage 1 DBPR.
Utilities Covered	All community water systems (CWS) and nontransient noncommunity water systems (NTNCWS) that either add a primary or residual disinfectant other than ultraviolet light, or deliver water that has been treated with a primary or residual disinfectant other than ultraviolet light.

Public Health Benefits

Implementation of the Stage 2 DBPR will result in...	<ul style="list-style-type: none"> Up to 182 fewer cases of bladder cancer per year and between 1,100 and 4,700 fewer cases of fetal loss per year. Reduced risk of other adverse health effects (i.e., developmental, reproductive, cancerous).
Estimated impacts of the Stage 2 DBPR include...	<ul style="list-style-type: none"> National capital costs: \$473.3 million National total annualized costs to utilities: \$58 million The average annual household cost is estimated to be \$0.51 per year.

Critical Deadlines and Requirements

For Drinking Water Systems

Rule + 24 Months	Systems serving ³ 10,000 people, and wholesale and consecutive systems where any system in the combined distribution system serves ³ 10,000 people, must submit their IDSE reports to the state.
Rule + 36 Months	<ul style="list-style-type: none"> All systems must comply with Stage 2A MCLs as LRAAs in addition to continuing to comply with the Stage 1 DBPR MCLs as running annual averages (RAAs). New standard for reduced bromate monitoring is effective.
Rule + 48 Months	Systems serving < 10,000 people must submit their IDSE reports to the state. This includes wholesale and consecutive systems where no system in the combined distribution system serves ³ 10,000 people.
Rule + 72 Months [†]	Systems serving ³ 10,000 people must comply with Stage 2B requirements.
Rule + 90 Months [†]	Systems serving < 10,000 people that are not required to conduct source water monitoring for <i>Cryptosporidium</i> under the provisions of the Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR) must comply with Stage 2B requirements.
Rule + 102 Months [†]	Systems serving < 10,000 people that are required to conduct source water monitoring for <i>Cryptosporidium</i> under the provisions of the LT2ESWTR must comply with Stage 2B requirements.

For States

Rule + 24 Months	States submit Stage 2 DBPR primacy revision applications to EPA (triggers interim primacy).
Rule + 48 Months	Primacy extension deadline—all states with a full 2-year extension must submit primacy revision applications to EPA.

[†] States may allow up to an additional 24 months for compliance with MCLs for systems requiring capital improvements.

Based on Proposed Rule

This quick reference guide is based on the proposed rule published in the *Federal Register* on August 18, 2003.

Regulated Contaminants

Regulated Contaminants	MCLG (mg/L)	Stage 2A MCL (mg/L)	Stage 2B MCL (mg/L)
Total Trihalomethanes (TTHM)		0.080 RAA 0.120 LRAA	0.080 LRAA
Chloroform Bromodichloromethane Dibromochloromethane Bromoform	0.07 zero 0.06 zero		
Five Haloacetic Acids (HAA5)		0.060 RAA 0.100 LRAA	0.060 LRAA
Monochloroacetic acid Dichloroacetic acid Trichloroacetic acid (revised) Bromoacetic acid Dibromoacetic acid	0.03 zero 0.02 - -		

IDSE Monitoring Requirements*

System Type	Monitoring Frequency	Sample Sets/ Treatment Plant/ Monitoring Period
Subpart H serving ³ 10,000	Every 60 days	8
Subpart H serving 500-9,999 & Ground water serving ³ 10,000	Every 90 days	2
Subpart H serving < 500 & Ground water serving < 10,000	Every 180 days	2
Consecutive systems that buy SOME, but not all, of their finished water	Number and location of samples is the same as a non-consecutive system with the same source water and population.	
Consecutive systems that buy ALL of their finished water	Number of samples and locations as specified in 40 CFR §141.602(b).	

* NTNCWS serving < 10,000 people do not need to complete an IDSE. States may also exempt systems with low historical levels of DBPs and systems serving < 500 people from the IDSE requirements. Contact your state for more information.

Compliance with Stage 2A MCLs

- Systems must comply with Stage 2A MCLs as LRAAs at ALL Stage 1 DBPR sites.
- Systems must continue to comply with Stage 1 DBPR MCLs as RAAs.
- No additional monitoring is required.

Compliance with Stage 2B MCLs (Routine Monitoring)

System Type	Monitoring Frequency	Other Requirements
Subpart H serving ³ 10,000	4 sample sets/quarter/plant	1 set taken during month of peak DBP concentrations
Subpart H serving 500-9,999 & Ground water serving ³ 10,000	2 sample sets/quarter/plant	1 set taken during month of peak DBP concentrations
Ground water serving 500-9,999	2 sample sets/year/plant	1 set taken during month of peak DBP concentrations
Subpart H serving < 500 & Ground water serving < 500	1 TTHM and 1 HAA5 sample/year/plant	1 set taken during month of peak DBP concentrations
Consecutive systems that buy <i>some</i> , but not all, of their finished water	Based on population and source. Consecutive systems that receive water from a Subpart H system must monitor as a Subpart H system.	
Consecutive systems that buy <i>all</i> of their finished water	As specified in the table in 40 CFR §141.605(e).	

For additional information on the Stage 2 DBPR

Call the Safe Drinking Water Hotline at 1-800-426-4791; visit the EPA web site at www.epa.gov/safewater; or contact your State drinking water representative.

Additional material is available at www.epa.gov/safewater/safewater/stage2/index.html

Appendix D

Draft Primacy Agency Data Entry Instructions, with Examples

These data entry instructions do not substitute for EPA regulation nor is this document regulation itself. Thus, it cannot impose legally-binding requirements on EPA, states (primacy agencies), or the regulated community, and its examples may not apply to a particular situation based upon the particular circumstances. Examples provided in this draft document reflect provisions proposed on August 18, 2003 (68 *FR* 49548).

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Acronyms & Abbreviations

BAT:	Best Available Technology
CCR:	Consumer Confidence Report
CFR:	Code of Federal Regulations
CWS:	Community Water System
DBP:	Disinfection Byproducts
DTF:	Data Transfer File
EPA:	Environmental Protection Agency
GWUDI:	Ground Water Under the Direct Influence of Surface Water
HAA5:	Haloacetic Acids (Monochloroacetic, Dichloroacetic, Trichloroacetic, Bromoacetic and Dibromoacetic Acids)
IDSE:	Initial Distribution System Evaluation
Log:	Logarithm (common, base 10)
LRAA:	Locational Running Annual Average
LT2ESWTR:	Long Term 2 Enhanced Surface Water Treatment Rule
MCL:	Maximum Contaminant Level
MCLG:	Maximum Contaminant Level Goal
mg/L:	Milligrams per Liter
M&R:	Monitoring and Reporting
MCAA	Monochloroacetic Acid
MRDL:	Maximum Residual Disinfectant Level
NTNCWS:	Nontransient Noncommunity Water System
PN Rule:	Public Notification Rule
PWS:	Public Water System
PWSID:	Public Water System Identifier
RAA:	Running Annual Average
RTC:	Return to Compliance
SDWA:	Safe Drinking Water Act, or the “Act,” as amended in 1996
SDWIS:	Safe Drinking Water Information System
SDWIS/FED:	Safe Drinking Water Information System Federal
Stage 1 DBPR:	Stage 1 Disinfectants and Disinfection Byproducts Rule
Stage 2 DBPR:	Stage 2 Disinfectants and Disinfection Byproducts Rule
Subpart H system:	PWS using surface water or GWUDI
SWTR:	Surface Water Treatment Rule
TCAA	Trichloroacetic Acid
TNCWS:	Transient Noncommunity Water System
TT:	Treatment Technique
TTHM:	Total Trihalomethanes (Chloroform, Bromodichloromethane, Dibromochloromethane, and Bromoform)
UV:	Ultraviolet Light
x log removal:	Reduction to 1/10 ^x of original concentration
XML:	Extensible Markup Language

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Section 1

Introduction

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1.1 What Is the Purpose of This Document?

On August 18, 2003, the U.S. Environmental Protection Agency (EPA) proposed the Stage 2 Disinfectants and Disinfection Byproducts Rule (Stage 2 DBPR) in the *Federal Register*. This document is intended to provide instructions to primacy agencies regarding the monitoring and reporting (M&R) requirements of the Stage 2 DBPR. This document discusses, through the use of typical water system examples, the water system M&R requirements, compliance and recordkeeping calculations, systems' non-compliance information reporting responsibilities, and the primacy agency's reporting responsibilities to EPA's database, the Safe Drinking Water Information System Federal (SDWIS/FED). Using this reference, primacy agencies will be able to identify violations and report appropriate noncompliance information to EPA. Throughout this document, the term primacy agency will be used to refer to a state, tribal government, or EPA region with primary enforcement authority for the Safe Drinking Water Act (SDWA).

1.2 How Is This Document Organized?

The document includes this Introduction and three additional sections as follows: Section 2 discusses violation determinations and when, where, and what to report; Section 3 provides basic SDWIS/FED reporting information regarding the Stage 2 DBPR; and Section 4 describes additional sources of information regarding the Stage 2 DBPR. Section 2 is divided into subsections that discuss Maximum Contaminant Level (MCL) and M&R violations. Each violation type uses example facility descriptions and the appropriate SDWIS/FED violation type codes to illustrate the typical violations that may be encountered during the routine operation of water systems. Sample extensible markup language (XML) and data transfer file (DTF) transactions that primacy agencies would report to EPA, representing the information for violations, are also included. NOTE: EPA's Office of Ground Water and Drinking Water (OGWDW) is currently defining its SDWIS XML Schema. Once the OGWDW schema is available, this document will be updated to include XML transactions.

1.3 What Are the Benefits of the Stage 2 DBPR?

The Stage 2 DBPR is part of a series of rules that are intended to control microbial pathogens while minimizing the public health risks from disinfectants and disinfection byproducts (DBPs). The Stage 2 DBPR builds upon the Stage 1 DBPR, which was finalized in 1998, and addresses risks associated with disinfectants and DBPs. This rule was proposed concurrently with the Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR), which addresses control of microbial pathogens in systems using surface water or ground water under the direct influence of surface water GWUDI (Subpart H systems) as a source.

The Stage 2 DBPR updates the 1998 Stage 1 DBPR DBP standards by modifying compliance calculations for total trihalomethanes (TTHM - chloroform, bromodichloromethane, dibromochloromethane, and bromoform) and five haloacetic acids (HAA5 - monochloroacetic, dichloroacetic, trichloroacetic, bromoacetic and dibromoacetic acids) and establishing new maximum contaminant level goals (MCLGs) for chloroform, monochloroacetic acid (MCAA), and trichloroacetic acid (TCAA). The Stage 2 DBPR also alters the requirements for public water systems (PWSs) to qualify for reduced bromate monitoring. The TTHM and HAA5 MCL values will remain the same as in the Stage 1 DBPR and are unaffected by the new MCLGs (see Table 1-1). However, instead of the

running annual average (RAA) calculation used for the Stage 1 DBPR, the Stage 2 DBPR will, in a phased approach, base compliance on a locational running annual average (LRAA) calculation, where the annual average at each sampling location in the distribution system will be used to determine compliance with the MCLs. The LRAA will reduce exposures to peak DBP concentrations by ensuring that each monitoring site is in compliance with the MCLs as an annual average, and it will provide all customers drinking water that more consistently meets the MCLs.

The following table presents the MCLs, MCLGs, and Maximum Residual Disinfection Levels (MRDLs) prescribed by the rule.

Table 1-1. Regulated Contaminants/Disinfectants of the Stage 2 DBPR

Regulated Contaminants	Stage 2A MCL (mg/L)	Stage 2A MCLG (mg/L)	Stage 2B MCL (mg/L)	Stage 2B MCLG (mg/L)
TTHM	0.080 RAA 0.120 LRAA		0.080 LRAA	
Chloroform Bromodichloromethane Dibromochloromethane Bromoform		0.07 zero 0.06 zero		0.07 0.06
HAA5	0.060 RAA 0.100 LRAA		0.060 LRAA	
Monochloroacetic Acid Dichloroacetic Acid Trichloroacetic Acid Bromoacetic Acid Dibromoacetic Acid		0.03 zero 0.02 - -		0.03 0.02

mg/L = milligrams/Liter

For more information on the Stage 2 DBPR requirements please call the Safe Drinking Water Hotline (1-800-426-4791) or visit EPA's Web site at <http://www.epa.gov/safewater/stage2/>.

1.4 What Is the General Applicability of the Stage 2 DBPR?

The Stage 2 DBPR applies to all community water systems (CWSs) and nontransient noncommunity water systems (NTNCWSs) that add a primary or residual disinfectant other than ultraviolet (UV) light or deliver water that has been treated with a primary or residual disinfectant other than UV. The Stage 2 DBPR builds on the requirements of 1979 TTHM Rule and the Stage 1 DBPR.

The 1979 TTHM requirements applied only to CWSs serving 10,000 or more people. Under the Stage 1 DBPR, disinfecting Subpart H CWSs and NTNCWSs serving 10,000 or more people had to comply with the rule requirements beginning January 1, 2002. Additionally, Subpart H systems that serve fewer than 10,000 people and all disinfecting ground water systems had to comply with the requirements of the Stage 1 DBPR beginning January 1, 2004.

The Stage 2 DBPR will be implemented in two stages. In Stage 2A, all CWSs and NTNCWSs that disinfect their water with disinfectants other than UV light and systems that deliver such disinfected water must comply with the requirements beginning [36 months after rule promulgation]. For Stage 2B, systems serving at least 10,000 people (or small systems serving fewer than 10,000 people with a large system in their combined distribution system) must comply with the requirements beginning [72 months after rule promulgation]. Systems serving fewer than 10,000 people (except those noted previously) that are required to do *Cryptosporidium* monitoring under the LT2ESWTR have [102 months after rule promulgation] to comply with Stage 2B. Systems serving fewer than 10,000 people not required to do *Cryptosporidium* monitoring must be in compliance with Stage 2B [90 months after rule promulgation].

Additionally, a system is subject to IDSE requirements if it is a CWS that adds a primary or residual disinfectant other than UV or delivers water that has been treated with a primary or residual disinfectant other than UV, or a NTNCWS serving *at least 10,000 people* that adds a primary or residual disinfectant other than UV or delivers water that has been treated with a primary or residual disinfectant other than UV. NTNCWSs serving *fewer than 10,000 people* are not subject to IDSE provisions and do not have to submit an IDSE report. Systems that serve at least 10,000 people and systems serving less than 10,000 people with a system serving at least 10,000 people in their combined distribution system must conduct and submit the results of an IDSE [24 months after rule promulgation]. Systems serving less than 10,000 people (except those noted before) must conduct and submit their IDSE results [48 months after rule promulgation]. All systems have to update their monitoring plans.

More information about the Stage 2 DBPR's requirements, compliance dates, and applicability can be found in the *Stage 2 DBPR Implementation Guidance* (EPA XXX-X-XX-XXX, Date).

1.5 What Is the Safe Drinking Water Information System (SDWIS) and How Does It Work?

SDWIS/FED is EPA's national database that stores routine information about the nation's drinking water. Primacy agencies implement and enforce SDWA by supervising the drinking water systems within their jurisdictions. SDWA requires that primacy agencies report drinking water information routinely to EPA; this information is maintained in SDWIS/FED.

Primacy agencies report the following information to EPA:

- Basic information on each water system, including: name, public water system identifier (PWSID) number, number of people served, type of system (year-round or seasonal), source of water (ground water or surface water), and a description of the treatment processes.
- Violation information for each water system: whether it has followed established M&R schedules, complied with mandated treatment techniques (TTs), or violated any MCLs.
- Enforcement information: what actions primacy agencies have taken to ensure that drinking water systems return to compliance (RTC) if they are in violation of a drinking water regulation.

- Monitoring results for unregulated contaminants and for regulated contaminants in certain instances when the monitoring results exceed the MCL.

EPA uses this information to oversee primacy agency drinking water programs, track contaminant levels, respond to public inquiries, determine if and when it needs to take action against non-compliant systems, and prepare national reports. EPA also uses this information to evaluate the effectiveness of its programs and regulations and to determine whether new regulations are needed to further protect public health.

1.6 How Is This Document Used?

Primacy agency personnel should evaluate each system to determine what provisions of the Stage 2 DBPR it needs to comply with. For those systems required to comply, this document provides guidance on how to evaluate compliance for each rule requirement (i.e., required system monitoring, system reporting to the primacy agency, system public notice, and reporting by the primacy agency to SDWIS/FED). The descriptions of the example systems in this document include sample monitoring data and the calculations and data comparisons necessary to determine compliance with the requirements of the Stage 2 DBPR. Example SDWIS/FED DTF tables show how the data describing violations of the Stage 2 DBPR should be encoded to be entered into the SDWIS/FED system. In addition, the examples provide guidance regarding public notification requirements consistent with EPA's Public Notification (PN) Rule. This guidance document does not offer any examples of SDWIS/FED reporting requirements associated with water system violations of the PN Rule. Users should refer to the *Final State Implementation Guidance for the Public Notification Rule* (EPA 816-R-01-010, October 2001) for additional information on these requirements and reporting to primacy agencies and EPA.

Section 2

Violation Reporting, Violation Reporting Fields, and Compliance Computations

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Violation Reporting

Section 2 explains how primacy agencies must report violations of the Stage 2 DBPR to EPA. The violations are summarized in Table 2-1a, “Summary of Stage 2 DBPR Violations.” Table 2-1b, “Reporting Fields for Stage 2 DBPR,” provides guidance about the violation fields that need to be reported for each of the violations. Note that the violations codes included in this draft document are currently being reviewed and are subject to change. Criteria to distinguish between major and minor violations are also being developed. Additional detailed transaction coding instructions are contained in the *SDWIS/FED Data Entry Instructions* (April 2003).

Sections 2.1 through 2.2 describe the three types of violations associated with the Stage 2 DBPR, including MCL violations, M&R violations, and recordkeeping violations. The rule requires sample collection, analysis, reporting, and recordkeeping for compliance with two MCLs (TTHM and HAA5) for all affected systems. Four different expressions of M&R violations are also defined.

Table 2-1a. Summary of Stage 2 DBPR Violations

VIOLATION DEFINITION	DESCRIPTION	MAJOR MINOR ¹	VIOLATION TYPE ²	DETAILS
Type 02/2950 Exceedance of TTHM MCL of 0.120 mg/L measured as a LRAA.	Quarterly violations of quarterly duration beginning 36 months after rule promulgation	N/A	MCL	Applies to NTNCWSs and CWSs adding primary or residual disinfectant other than UV or delivering such water.
Type 02/2456 Exceedance of HAA5 MCL of 0.100 mg/L measured as a LRAA.	Quarterly violations of quarterly duration beginning 36 months after rule promulgation	N/A	MCL	Applies to NTNCWSs and CWSs adding primary or residual disinfectant other than UV or delivering such water.
Type 02/2950 Exceedance of TTHM MCL of 0.080 mg/L measured as a LRAA.	Quarterly violations of quarterly duration beginning 72 months after rule promulgation	N/A	MCL	Applies to NTNCWSs and CWSs adding primary or residual disinfectant other than UV or delivering such water. Applies to Subpart H and ground water systems serving $\geq 10,000$ people.
	Quarterly violations of quarterly duration beginning 90 months after rule promulgation			Applies to NTNCWSs and CWSs adding primary or residual disinfectant other than UV or delivering such water. Applies to Subpart H systems serving $< 10,000$ people if no <i>Cryptosporidium</i> monitoring is required and ground water systems serving $< 10,000$ people.
	Quarterly violations of quarterly duration beginning 102 months after rule promulgation			Applies to NTNCWSs and CWSs adding primary or residual disinfectant other than UV or delivering such water. Applies to Subpart H systems serving $< 10,000$ people if <i>Cryptosporidium</i> monitoring is required.

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VIOLATION DEFINITION	DESCRIPTION	MAJOR MINOR ¹	VIOLATION TYPE ²	DETAILS
Type 02/2456 Exceedance of HAA5 MCL of 0.060 mg/L measured as a LRAA.	Quarterly violations of quarterly duration beginning 72 months after rule promulgation	N/A	MCL	Applies to NTNCWSs and CWSs adding primary or residual disinfectant other than UV or delivering such water. Applies to Subpart H and ground water systems serving ≥ 10,000 people.
	Quarterly violations of quarterly duration beginning 90 months after rule promulgation			Applies to NTNCWSs and CWSs adding primary or residual disinfectant other than UV or delivering such water. Applies to Subpart H systems serving < 10,000 people if no <i>Cryptosporidium</i> monitoring is required and ground water systems serving < 10,000 people.
	Quarterly violations of quarterly duration beginning 102 months after rule promulgation			Applies to NTNCWSs and CWSs adding primary or residual disinfectant other than UV or delivering such water. Applies to Subpart H systems serving < 10,000 people if <i>Cryptosporidium</i> monitoring is required.
Types 03/2950 and 03/2456 Failure to collect or report LRAAs and compliance calculations for TTHM and HAA5 samples.	Begins: First day of the quarter (or annual or triennial period begin date) in which one or more samples are missed Ends: Last day of the quarter (or annual or triennial period end date) in which the LRAA calculation period contains one or more missed samples	Either	M&R	Applies to NTNCWSs and CWSs adding primary or residual disinfectant other than UV or delivering such water. For systems on annual and triennial periods, use the begin date and end date of those periods.

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VIOLATION DEFINITION	DESCRIPTION	MAJOR MINOR ¹	VIOLATION TYPE ²	DETAILS
Type 39/DBP2 Failure to conduct an IDSE and submit an IDSE report or to use an approved IDSE alternative .	<p>Begins: Either when the IDSE report is due or when the state becomes aware of the failure to conduct the IDSE, beginning 24 months after rule promulgation</p> <p>Ends: When state receives the IDSE report or IDSE alternatives. Have a future end date (such as 12/31/2050) with the end date modified as a result of a link to a RTC (to be reported).</p>	xxx	M&R	Applies to NTNCWSs serving at least 10,000 people and CWSs that add primary or residual disinfectant other than UV or deliver such water.
Type 39/DBP2 Failure to develop or implement a monitoring plan for TTHM and HAA5 sampling.	<p>Begins: Either when the monitoring plan is due or when the state becomes aware of the failure to implement the monitoring plan, beginning 72 months after rule promulgation</p> <p>Ends: When state receives the monitoring plan or is notified that the system is implementing the plan. Have a future end date (such as 12/31/2050) with the end date modified as a result of a link to a RTC (to be reported).</p>	Major	M&R	Applies to NTNCWSs and CWSs adding primary or residual disinfectant other than UV or delivering such water.

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VIOLATION DEFINITION	DESCRIPTION	MAJOR MINOR ¹	VIOLATION TYPE ²	DETAILS
Type 03/1011 Failure to return to routine from reduced monitoring of bromate.	Begins: first day of the quarter when system fails to return to routine monthly monitoring if RAA of bromate is ≥ 0.0025 mg/L for reduced quarterly monitoring or if samples were not analyzed using an approved method, beginning 36 months after rule promulgation Ends: Last day of the quarter in which the bromate RAA calculation period contains one or more missed samples	xxx	M&R	Applies to CWSs and NTNCWSs that use ozone as a disinfectant or oxidant and are on reduced (quarterly) monitoring. Systems must analyze samples using Method 317.0 Revision 2.0, 326.0, or 321.8.
Type 09/DBP2 Failure to maintain records of microbiological and turbidity analyses.	Begins: When system discards records or state becomes aware the records have been discarded End: 5 years after analyses are completed	xxx	Recordkeeping	Applies to NTNCWSs and CWSs adding primary or residual disinfectant other than UV or delivering such water. Changes wording of existing recordkeeping requirements in proposed §141.33(a).
Type 09/DBP2 Failure to maintain copies of monitoring plans.	Begins: When system discards monitoring plans or state becomes aware the plans have been discarded End: 3 years after modification of plans or time period stated in 141.33(a), whichever is longer	xxx	Recordkeeping	Applies to NTNCWSs and CWSs adding primary or residual disinfectant other than UV or delivering such water.

¹ This column identifies the violation as being “major” or “minor” based on noncompliance circumstances.

² Column identifies the type of violation: MCL = maximum contaminant level; M&R = monitoring and reporting.

Violation reporting fields

Only the fields identified below in Table 2-1b, “Reporting Fields for Stage 2 DBPR Violations,” are to be reported to represent Stage 2 DBPR violations. DTF capabilities such as qualifiers 1 and 2 (PWSID and Violation ID, respectively) continue to be required. Batch Sequence number continues to be optional. All other violation fields should NOT be included in submissions to EPA. Those fields, if included in a submission, will be rejected.

Table 2-1b. Reporting Fields for Stage 2 DBPR Violations

Violation	Type	Contaminant Code (C1103)	Type Code (C1105)	Compliance Period Begin Date (C1107)	Compliance Period End Date (C1109)	Severity Indicator Count (C1112) ¹	Major Violation Indicator (C1131)
Bromate	M&R	1011	03	First day of quarter 3 years after rule promulgation	Last day of quarter in which the RAA calculation period contains one or more missed samples	do not report	no=failure to return to routine monitoring
TTHM	MCL	2950	02	First day of quarter	Last day of quarter	yes	do not report
TTHM	M&R	2950	03	First day of quarter	Last day of quarter in which the LRAA calculation period contains one or more missed samples	do not report	yes= failure to collect at least 90% of required samples no=failure to collect/report 90%-99% of samples
HAA5	MCL	2456	02	First day of quarter	Last day of quarter	yes	do not report
HAA5	M&R	2456	03	First day of quarter	Last day of quarter in which the LRAA calculation period contains one or more missed samples	do not report	yes= failure to collect at least 90% of required samples no=failure to collect/report 90%-99% of samples

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Violation	Type	Contaminant Code (C1103)	Type Code (C1105)	Compliance Period Begin Date (C1107)	Compliance Period End Date (C1109)	Severity Indicator Count (C1112) ¹	Major Violation Indicator (C1131)
Failure to conduct an IDSE and submit an IDSE report, or to use an IDSE alternative	M&R	DBP2	39	Either date when IDSE or IDSE alternatives is due	SDWIS/FED will default to 12/31/2050. A state associating a RTC enforcement to this violation will cause SDWIS/FED to adjust the end date to the RTC date. RTC is achieved when the state is satisfied that the IDSE has been developed, submitted, or is being followed, depending on the nature of the noncompliance.	do not report	always major
Failure to develop or implement a monitoring plan	M&R	DBP2	39	Prior to date when system is required to comply with monitoring plan (i.e., compliance schedule for Subpart V)	SDWIS/FED will default to 12/31/2050. A state associating a RTC enforcement to this violation will cause SDWIS/FED to adjust the end date to the RTC date. RTC is achieved when the state is satisfied that the plan has been developed, submitted, or is being followed, depending on the nature of the noncompliance.	do not report	always major

Draft for Comment Based on the Proposed Stage 2 DBPR

Violation	Type	Contaminant Code (C1103)	Type Code (C1105)	Compliance Period Begin Date (C1107)	Compliance Period End Date (C1109)	Severity Indicator Count (C1112)¹	Major Violation Indicator (C1131)
Failure to maintain records of microbiological and turbidity analyses	Record-keeping	DBP2	09	Day on which system discards records or state becomes aware the records have been discarded	5 years after analyses are completed	do not report	XXX
Failure to maintain copies of monitoring plans	Record-keeping	DBP2	09	Day on which system discards monitoring plans or state becomes aware the plans have been discarded	3 years after modification of plans or time period stated in 141.33(a), whichever is longer	do not report	XXX

¹ New numeric field (C1112) in which to record the number of times the MCL was exceeded or the number of samples missed during the month. EPA will use this number to represent the actual number of violations incurred by the water system for acute-chronic ratios and other statistical purposes.

Compliance Computations

Under the proposed Stage 2 DBPR, EPA is proposing that compliance with TTHM and HAA5 MCLs occurs in two phases, which are distinguished as Stage 2A and Stage 2B. Under Stage 2A as proposed §141.64, all systems must continue to comply with the Stage 1 DBPR MCLs of 0.080 mg/L for TTHM and 0.060 mg/L for HAA5 as RAAs, which are defined as averages of all compliance sample analytical results taken during the previous four calendar quarters. Additionally, Stage 2A sets MCLs of 0.120 mg/L and 0.100 mg/L for TTHM and HAA5, respectively, as LRAAs at each Stage 1 DBPR sampling sites beginning [36 months following rule publication]. LRAAs are defined by the rule (proposed §141.2) as the average of sample analytical results for samples taken at a particular monitoring site during the previous four calendar quarters. RAAs on the other hand are averages calculated using data from all sampling sites. For example, if a system samples at two different monitoring locations, it would have two different LRAAs per quarter as opposed to the one RAA under the Stage 1 DBPR.

Under Stage 2B of the Stage 2 DBPR (proposed §141.620), systems will have to comply with the MCLs of 0.080 mg/L for TTHM and 0.060 mg/L for HAA5 based on LRAAs at each sampling site (identified through the IDSE) beginning [72 months following rule publication]. The two phases of the rule aim to facilitate systems' transition to more stringent MCLs.

The discussions below clarify how compliance should be determined when a water system does not have an entire year of sampling data to compute the RAA (or LRAA) or does not operate for a full year. In addition, information regarding violation dates will be provided when the rule's compliance computations cross from one month to the next (e.g., when a sample taken on the last day of a month requires additional sampling the next month, and the results indicate noncompliance).

First Year Calculations

Stage 2A

Under Stage 2A, PWSs will continue to monitor at the same sampling points and at the same frequencies required under the Stage 1 DBPR. Systems must continue to comply with the Stage 1 DBPR MCLs of 0.080 mg/L for TTHM and 0.060 mg/L for HAA5 through RAAs. To calculate an RAA, systems must sum results from the previous four quarters and divide by 4. If the RAA is less than or equal to the MCL, the system is in compliance. If the RAA is greater than the MCL, the system is not in compliance. For guidance on computing RAAs under the Stage 1 DBPR, see EPA's *Primacy Agency Data Entry Instructions, with Examples, for Stage 1 Disinfectants and Disinfection Byproducts Rule* (EPA 816-R-02-012, January 2003).

In addition to calculating RAAs under Stage 2A, PWSs are also required to begin calculating an LRAA [insert 48 months after rule promulgation] for each sampling point to demonstrate compliance with the Stage 2A MCLs of 0.120 mg/L for TTHM and 0.100 mg/L for HAA5. LRAAs must be calculated for each Stage 1 DBPR monitoring site. Under Stage 2A LRAA requirement, a system will need to average the quarterly sample results at each Stage 1 DBPR monitoring site (e.g., if the system has one treatment plant and four Stage 1 DBPR monitoring sites, the system must calculate the LRAA for each of these sites independently, resulting in four LRAAs). For Stage 2A, systems must use data collected after the compliance date, [insert 36 months after rule promulgation], to calculate the LRAA. Systems must calculate the arithmetic average at the end of the fourth calendar quarter that follows the compliance

date. Compare each average to the MCL. If any LRAA result (properly rounded) is greater than the MCL, then the water system is in violation of the MCL under Stage 2A. Systems may not assume zeros because Stage 2A provides them four quarters to collect data before calculating their LRAAs.

Stage 2B

Beginning 72 months after the promulgation of the rule, PWSs must comply with MCLs of 0.080 mg/L for TTHM and 0.060 mg/L for HAA5 through LRAAs as defined under Stage 2B. Monitoring locations will be based on the results of each system's IDSE.

The following discussion explains how to implement this requirement for Stage 2B during the first, second, third and fourth quarters of the first year of compliance under Stage 2B.

First Quarter LRAA Computation

The sample results obtained for each Stage 2B sampling site will not be averaged in the first quarter. Systems will use the results for each monitoring site (e.g., if a system has four Stage 1 DBPR monitoring sites, the system will have four LRAAs). Since only one result will be available for each site in the first quarter of Stage 2B, a system will assume that the results for quarter 2, quarter 3, and quarter 4 are zero. Then, a system will calculate the sum of the quarterly averages (the actual value for quarter 1 plus zeros for quarters 2, 3, and 4), and divide the result by 4 to determine compliance with the LRAA. If any LRAA result (properly rounded) is greater than the MCL, then the water system is in violation of the MCL for the first quarter of Stage 2B.

Second Quarter LRAA Computation

Systems will calculate the arithmetic average of quarter 1 and quarter 2 for each monitoring site (e.g., if a system has four monitoring sites, the system will have four LRAAs). Since only two quarters' results are available, systems will assume that the results for quarter 3 and quarter 4 are zero. Systems will calculate the sum of the first two quarterly values, plus zeros for quarter 3 and quarter 4, and divide each sum by 4. If any LRAA is greater than the MCL, then the water system is in violation of the MCL for the second quarter.

Third Quarter LRAA Computation

Systems will calculate the arithmetic average of quarter 1, quarter 2, and quarter 3 for each monitoring site (e.g., if a system has four Stage 1 DBPR monitoring sites, the system will have four LRAAs). Since only three quarters' results are available, systems will assume that the results for quarter 4 are zero. Systems will calculate the sum of the first three quarterly values, plus a zero for quarter 4, and divide each sum by 4. If any LRAA is greater than the MCL, then the water system is in violation of the MCL for the third quarter.

Fourth Quarter LRAA Computation

Systems will calculate the arithmetic average of quarters 1, 2, 3, and 4 for each monitoring site (e.g., if a system has four Stage 1 DBPR monitoring sites, the system will have four LRAAs). Systems will calculate the sum of all four quarterly averages and divide each sum by 4. If any LRAA is greater than the MCL, then the water system is in violation of the MCL for the fourth quarter.

Calculating an RAA or LRAA When There are Data Missing Prior to the Desired Calculation Date

Stage 2A

Systems may not assume zeros when computing RAAs under Stage 2A because systems should have a full year of data available from the Stage 1 DBPR monitoring locations. Similarly, systems may not assume zeros when computing LRAAs under Stage 2A because they have four quarters after the Stage 2A compliance date to monitor. Therefore, systems should have a full year of data by the time they have to calculate their first LRAA.

If the system has failed to take all of the necessary samples, the system must use the available data to determine compliance with an LRAA MCL. The system must calculate each LRAA by dividing the sum of the available data by the number of samples actually taken. For example, if the systems failed to collect samples in quarters 2 and 3, then at the end of quarter 4, the system should sum the results from quarters 1 and 4 and divide by 2 to determine the LRAAs. The system would then compare the LRAA to the MCL to determine compliance. Note that failure to collect the minimum number of required compliance samples is a monitoring violation.

Stage 2B

Because systems may have new monitoring sites based on their IDSEs under Stage 2B, calculating LRAAs during the first year will be completed by assuming zeros when data is not yet available. For example, after a system has collected data in the first two quarters, a system may assume zeros for quarter 3 and quarter 4. When calculating compliance, a system must sum the values of quarter 1 and quarter 2 results, plus zeros for quarters 3 and 4, and then divide the total by 4 to determine the LRAA.

After four quarters, a system may no longer assume zeros for quarters lacking data. If a system fails to collect a sample, the system must calculate compliance in the same way in which it did under Stage 2A. For example, if there is only quarterly monitoring data available for quarter 1, quarter 3, and quarter 4 at the end of the fourth quarter, the system must sum the results from the three available quarters and divide by 3 to determine each LRAA. The result is then compared to the MCL to determine compliance. As under Stage 2A, failure to collect the minimum number of required compliance samples is a monitoring violation.

Computing LRAAs for Seasonal Water Systems

A water system that operates seasonally must collect samples, have the samples analyzed, and report results during any monitoring period in which it operates. Compliance with an LRAA is calculated in any compliance period by using the data available from the period of operation. For example, if a seasonal water system operates June through September each year, it must collect samples for the second and third quarters of each year. At the end of quarter 4 after the compliance date under Stage 2A (and for every quarter of operation thereafter), the LRAA must be calculated by summing the results of the available quarters from the past 12 months and dividing by the number of quarters for which the system has data.

Reporting Violations of LRAA

Due to the complexity associated with recording non-compliance dates for MCL exceedances, EPA has decided to have primacy agencies record the quarter in which the sampling results caused the LRAA to be exceeded. If the LRAA standard continues to be exceeded in subsequent quarters, even if the most recent quarter's values are below the standard, the water system remains out of compliance with the LRAA for that quarter and an MCL violation for that quarter must be reported to EPA. This situation will continue until a subsequent quarter's sampling result reduces the LRAA so that it no longer exceeds the MCL. In addition, where compliance sampling crosses from one month or one quarter to the next, and noncompliance with one or more provisions of the regulations is determined, the primacy agency should decide the month or quarter for which to report the violation the date based on when the monitoring was performed or samples analyzed/reported that made the primacy agency aware that the water system was out of compliance.

Sampling Location and Calculating Compliance

Some parameters can be measured at multiple locations in the distribution system to determine compliance. The values from these measurements are expressed as an average during a quarter. A careful determination regarding the correct location or locations for monitoring is necessary for the accurate calculation of an LRAA for compliance purposes.

2.1 MCL Violations

General Discussion of MCL Violations

Stage 2 DBPR MCL violations are reported to SDWIS/FED when the average of sample results for a contaminant exceeds the MCL. Since all Stage 2 DBPR reporting is for sample averages rather than individual results, violation Type "02" is used rather than Type "01." Table 2-2 presents a summary of the MCL violation reporting codes.

Table 2-2. SDWIS/FED Codes for MCL Reporting Under the Stage 2 DBPR

Violation Code	Contaminant Code	MCL Violations
02	2950	TTHM MCL
	2456	HAA5 MCL

The MCLs for TTHM and HAA5

Under the Stage 2A of the Stage 2 DBPR, CWSs and NTNCWSs adding a disinfectant other than UV are required to take TTHM and HAA5 samples in their distribution systems at certain points, depending on the number of people the system serves. Under Stage 2B systems will collect samples from locations representing peak concentrations of TTHM and HAA5, as determined by an IDSE. The IDSE requirements are based on system type, population served, number of treatment plants, water source type, and DBP monitoring history: states may also grant waivers to small systems serving fewer than 500 people.

Compliance with the MCLs for TTHM and HAA5 is determined quarterly by comparing the RAA of quarterly average concentrations under Stage 1 DBPR and the LRAAs for Stage 2A of the Stage 2 DBPR. The Stage 1 DBPR RAA MCL is 0.080 mg/L for TTHM and 0.060 mg/L for HAA5. The Stage 2A LRAA MCLs are 0.120 mg/L for TTHM and 0.100 mg/L for HAA5 at the monitoring locations from Stage 1 DBPR. Compliance with the MCLs under Stage 2B is based on LRAA MCLs of 0.080 mg/L for TTHM and 0.060 mg/L for HAA5 at monitoring locations determined by the IDSE. A LRAA of the quarterly averages that is greater than the MCL is a single violation of that MCL for the system. For guidance on reporting RAA violations under the Stage 1 DBPR, see EPA's *Primacy Agency Data Entry Instructions, with Examples, for Stage 1 Disinfectants and Disinfection Byproducts Rule* (EPA 816-R-02-012, January 2003).

2.1.1 Type 02/2950: TTHM MCL Violation

Cross-reference to Stage 2 DBPR Implementation Guidance:

Section 1, pages 32, 42

Section 5, pages 95-96

Cross-reference to Rule:

Proposed §141.136

Proposed §141.620

Table 2-3. TTHM MCL Violation

Violation Code	Contaminant Code	Violation Description
02	2950	<p>The RAA, computed quarterly, of quarterly averages, exceeds the MCL of 0.080 mg/L.</p> <p>Beginning 36 months after rule promulgation: the LRAA, computed quarterly, of individual samples, exceeds the MCL of 0.120 mg/L.</p> <p>Beginning 72 months after rule promulgation: the LRAA, computed quarterly, of individual samples, exceeds the MCL of 0.080 mg/L.</p> <p>The primacy agency will record the begin and end dates of the violation representing the quarter in which the results of the samples exceed the MCL.</p> <p>If a water system misses one or more samples during that quarter, then only the available values are used in the computation.</p>

Example System Description - System A

System A is a small Subpart H system that uses two large ground water wells determined to be under the direct influence of surface water. The system treats the water from each well by filtration through cartridge and bag filters and by disinfection with chlorine gas on a full-time basis. The system utilizes two filtration/disinfection treatment plants known as TP 1 and TP 2.

System A Summary

Population Served:	8,200
Source #1:	Well 1
Treatment:	Filtration, chlorine
Source #2:	Well 2
Treatment:	Filtration, chlorine

This system is required to comply with the TTHM and HAA5 RAA requirement under the Stage 1 DBPR, LRAA requirement under the Stage 2A, and the LRAA requirement under the Stage 2B. This system is also required to submit an IDSE report to their state by [insert 48 months after rule promulgation] and to submit a new monitoring plan under Stage 2B prior to the date they are required to comply with the Stage 2B requirements (either 90 or 102 months after rule promulgation). System A is not required to conduct *Cryptosporidium* monitoring under the LT2ESWTR, so it must comply with Stage 2B 90 months after rule promulgation. For compliance with Stage 2A, System A's qualified operator collects and has a certified laboratory analyze one sample per plant for TTHM (and HAA5) during the first month of each quarter in a location within the distribution system that represents maximum residence time. Note that for compliance with Stage 2B, System A will be required to collect two dual sample sets per quarter per treatment plant at representative high TTHM and HAA5 sites, as determined by the IDSE.

In an effort to enhance operational control and better protect public health, the operator also collects and analyzes one sample per treatment plant at the points of maximum residence time during the second and third months of each quarter. These additional compliance samples are described in the system monitoring plan submitted to the primacy agency under the Stage 1 DBPR. A summary of System A's activity requirements is presented in Table 2-4.

The operator takes the TTHM samples during times when the disinfection systems are operating under normal conditions and collects the samples at the locations (i.e., points of maximum residence time) and according to the schedule specified in the provisions of the system's processes monitoring plan.

Table 2-4. System A Monitoring Summary

PARAMETER OR TASK	SAMPLE LOCATION			SAMPLE FREQUENCY			
	Plant	Entrance to Distribution System	Distribution System	Daily	Monthly	Quarterly	Annually or less than annually
<u>Disinfectants</u>							
Chlorine ¹		X	X	X	X		
<u>DBPs</u>							
TTHM/HAA5			X			X ²	
IDSE Report	YES	NO	Submit IDSE Report to Primacy Agency			YES	NO
	X					X	
Monitoring Plan REQUIRED	YES	NO	Submit Monitoring Plan to Primacy Agency			YES	NO
	X					X	

¹ This monitoring is required under the Stage 1 DBPR.

² System is required to collect one sample per plant per quarter. However, additional monitoring is performed for process control and compliance as outlined in the system's monitoring plan.

Under the Stage 2A, the operator records the results of the samples on a TTHM monitoring form each month and, at the end of each calendar quarter, calculates a TTHM RAA for the system and compares the result to the Stage 1 DBPR RAA TTHM MCL of 0.080 mg/L. In addition, at the end of each calendar quarter beginning four quarters after the Stage 2A compliance date, the operator calculates a TTHM LRAA and compares the result to the Stage 2A LRAA TTHM MCL of 0.120 mg/L. To calculate the RAA and LRAA the system uses the data from the current quarter and the three previous quarters. The operator uses all compliance sample data in this calculation, even though the system has sampled more frequently than required for its size.

A violation of the MCL for TTHM is defined as any RAA or LRAA, computed each quarter from quarterly averages of all samples collected, that exceeds the 0.080 mg/L MCL for RAA and 0.120 mg/L MCL for LRAA. Systems will need to comply with the Stage 2A MCLs until 90 months after rule promulgation. Ninety months after rule promulgation, this system will be required to comply with the Stage 2B LRAA MCL of 0.080 mg/L.

Example #1 - Stage 2A TTHM Compliance Calculation after the Fourth Quarter

Table 2-5 summarizes the Stage 2A TTHM monitoring results for 200X [insert date 36 months after rule promulgation]. In December 200X, System A's operator collects the fourth scheduled set of two TTHM samples (one per plant at the point of maximum residence time) for the fourth quarter of 200X. The operator enters the values on the TTHM monitoring forms. Since the operator has collected two sets of

samples during the fourth quarter, the operator calculates a quarterly arithmetic average concentration for each treatment plant and records that value on the TTHM monitoring forms. The quarterly averages of all TTHM samples collected for the fourth quarter are 0.300 mg/L for treatment plant 1 and 0.078 mg/L for treatment plant 2. Then the operator uses the third quarter's averages of 0.200 mg/L and 0.072 mg/L for treatment plants 1 and 2, respectively, the second quarter's averages of 0.063 mg/L and 0.059 mg/L for treatment plants 1 and 2, respectively, and the first quarter's averages of 0.030 mg/L and 0.020 mg/L, respectively.

Table 2-5. System A 200X TTHM Monitoring Results

Quarter		Distribution System Results (mg/L)		
		TP 1	TP 2	Average of TP1 & TP2 for RAA
200X Q1		0.030	0.020	0.025
200X Q2		0.063	0.059	0.061
200X Q3		0.200	0.072	0.136
200X Q4		0.300	0.078	0.189
Compliance Calculation	Sum	0.593	0.229	0.411
	÷ 4	0.148	0.057	0.103
	4 th Quarter LRAA	0.148 > 0.120	0.057 < 0.120	
	4 th Quarter RAA			0.103 > 0.080

Example #1 Decision

System A has completed a full year of monitoring under Stage 2A and must use this data to compute LRAAs for the first time. The operator sums quarterly results from quarters 1, 2, 3, and 4 of the current year and divides by 4 to determine LRAA compliance with the Stage 2A MCL of 0.120 mg/L. The result for treatment plant 1 is 0.148 mg/L; therefore, the operator must report an MCL violation since the sum of the available quarterly results for treatment plant 1 divided by 4 is greater than the MCL of 0.120 mg/L. The LRAA for the other plants below the MCL. In addition, the system must calculate the RAA of the two treatment plants as required by the Stage 1 DBPR. The system must also report an MCL violation of the Stage 1 DBPR since the sum of the averaged quarterly results for both treatment plant divided by 4 is greater than the MCL of 0.080 mg/L.

Public Notice Requirements

System A must provide Tier 2 public notice of these MCL violations according to the requirements of 40 CFR 141.201.

System Reporting Requirements

System A's operator must notify the primacy agency regarding the Stage 1 DBPR and Stage 2A MCL violations according to the requirements of 40 CFR 141.134, as summarized in Table 2-6, in addition to all required reporting information discussed in the *Primacy Agency Data Entry Instructions, with Examples, for Stage 1 Disinfectants and Disinfection Byproducts Rule* (EPA 816-R-02-012, January 2003).

Primacy Agency to SDWIS/FED Reporting

The appropriate SDWIS/FED TTHM Stage 2A MCL violation data elements are listed below. The primacy agency must also report these violations to EPA after the monitoring for the quarter is completed, even though the water system's noncompliance is known in advance. Table 2-6 shows the data elements and individual DTF transactions for SDWIS Reporting Code 02/2950. See *Primacy Agency Data Entry Instructions, with Examples, for Stage 1 Disinfectants and Disinfection Byproducts Rule* (EPA 816-R-02-012, January 2003), for information on how to report a Stage 1 DBPR MCL violation.

Table 2-6. TTHM MCL Violation Data Element Table and DTF Transactions

Data Elements:

<u>Number</u>	<u>Name</u>	<u>Value or Comment</u>
C0101	PWSID	<i>Qualifier 1</i>
C1101	Violation ID	<i>Qualifier 2</i>
C1103	Contaminant Code	2950
C1105	Violation Type Code	02
C1107	Compliance Period Begin Date	
C1109	Compliance Period End Date	<i>Must be 3 months later than C1107</i>
C1112	Severity Code	<i>Number of times the MCL is violated</i>
C1123	Violation Analysis Result	<i>LRAAs (mg/L) for analyses that led to the MCL violation</i>

DTF Transactions:

1-2	3-11	12-18	19-25	26	27-31	32-71	72-74	
D1	GA1234571	0200001		I	C1103	2950		
D1	GA1234571	0200001		I	C1105	02		
D1	GA1234571	0200001		I	C1107	200X0701		
D1	GA1234571	0200001		I	C1109	200X0930		
D1	GA1234571	0200001		I	C1112	1		
D1	GA1234571	0200001		I	C1123	0.148		

Example #2 - Stage 2B TTHM Compliance Calculation after the First Quarter

Table 2-7 summarizes the Stage 2B TTHM monitoring results for the first quarter of 200X [insert year 90 months after rule publication]. In March 200X, System A's operator collects the third scheduled set of four TTHM samples (two per plant at points identified in the system's IDSE) for the first quarter, has the samples analyzed by a certified laboratory, and enters the values on the TTHM monitoring form. Since the operator has collected a total of six distribution system samples per plant (12 samples) during the quarter, the operator calculates an arithmetic average value for TTHM for each sample location (two per plant) and enters it on the TTHM monitoring form.

Table 2-7. System A First Quarter 200X TTHM Monitoring Results

Month/Quarter		Distribution System Results (mg/L)			
		TP 1		TP 2	
		Location 1	Location 2	Location 1	Location 2
January 200X/Q1		0.061	0.064	0.059	0.070
February 200X/Q1		0.063	0.060	0.056	0.061
March 200X/Q1		0.065	0.059	0.061	0.055
Quarterly Average (mg/L)		0.063	0.061	0.059	0.062
Compliance Calculation	Sum	0.063	0.061	0.059	0.062
	÷ 4	0.01575	0.01525	0.01475	0.0155
	1 st Quarter LRAA	0.016 < 0.120	0.015 < 0.120	0.015 < 0.120	0.016 < 0.120

Example #2 Decision

Since System A's operator has not completed a full year of TTHM monitoring under Stage 2B, it is necessary to use the first year LRAA calculation methodology. For each site, the operator calculates the sum of the first quarter average value in the distribution system (0.063 mg/L, 0.061 mg/L, 0.059, and 0.062 mg/L respectively), assumes zeros for the other three quarters, and divides each total by 4. Since none of the LRAAs are 0.120 mg/L or greater, System A is in compliance with the Stage 2B MCL for TTHM after the first quarter of 200X.

Public Reporting Requirements

Because the system is in compliance, no public notice is required for this parameter for this reporting period.

System Reporting Requirements

Although System A is in compliance with the TTHM Stage 2B MCL, the operator must routinely report the information presented in Table 2-8 in addition to all required reporting information discussed in the

Primacy Agency Data Entry Instructions, with Examples, for Stage 1 Disinfectants and Disinfection Byproducts Rule (EPA 816-R-02-012, January 2003) to the primacy agency.

Primacy Agency to SDWIS/FED Reporting

Because the system is in compliance, no SDWIS/FED reporting is required for this parameter for this reporting period.

**Table 2-8. TTHM and HAA5 Reporting Requirement
[40 CFR 141.134 and proposed §141.136(d)]**

For water systems monitoring for TTHM and HAA5 under the requirements of proposed §141.132(b)	<p>Systems required to sample quarterly or more frequently must report to the primacy agency within 10 days after the end of each quarter in which samples are collected.</p> <p>The water system must report to the primacy agency:</p> <ol style="list-style-type: none">(1) The number of samples taken during the last quarter.(2) The location, date, and result of each sample taken during the last quarter.(3) The arithmetic average of all samples taken in the last quarter.(4) The annual arithmetic average of the quarterly arithmetic averages of this section for the last four quarters.(5) The annual arithmetic average of samples collected for the last four quarters for each monitoring location.(6) Whether, based on 40 CFR 141.133(b)(1), the MCL was violated.
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2.1.2 Type 02/2456: HAA5 MCL Violation

Cross-reference to Stage 2 DBPR Implementation Guidance:

Section 1, pages 32, 42

Section 5, pages 95-96

Cross-reference to Rule:

Proposed §141.132(b)

Proposed §141.601

Proposed §141.605

Proposed §141.620

Proposed §141.622

Table 2-9. HAA5 MCL Violation

Violation Code	Contaminant Code	MCL Violations
02	2456	<p>The RAA, computed quarterly, of quarterly averages, exceeds the MCL of 0.060 mg/L.</p> <p>Beginning 36 months after rule promulgation: the LRAA of individual sample locations, computed quarterly, exceeds the MCL of 0.100 mg/L.</p> <p>Beginning 72 months after rule promulgation: the LRAA of individual sample locations, computed quarterly, exceeds the MCL of 0.060 mg/L.</p> <p>The primacy agency will record the begin and end dates of the violation representing the quarter in which the results of the samples exceed the MCL. If a water system misses one or more samples during that quarter, then only the available values are used in the computation.</p>

Example System Description - System B

System B is a large Subpart H CWS that uses a lake as its source and meets the Subpart H filtration avoidance criteria. The system supplies water disinfected with UV light and treated with chlorine to meet the disinfection requirements of the Surface Water Treatment Rule (SWTR). The system utilizes only one source and one treatment plant. The MCL established in the Stage 1 DBPR for HAA5 is 0.060 mg/L and compliance is based upon an RAA computed quarterly of quarterly averages. System B is also required to calculate the LRAA at the end of the fourth calendar quarter [insert 36 months after rule promulgation] and to ensure that each location complies with the Stage 2A MCL for HAA5 of 0.100 mg/L. Beginning [insert 72 months after rule promulgation], System B will need to calculate LRAA to comply with the Stage 2B MCL for HAA5 of 0.060 mg/L at each sampling location.

System B Summary

Population Served: 58,000
Source #1: Surface water
Treatment: Successfully avoiding filtration, UV, chlorine

Each quarter (i.e., approximately every 90 days), System B's qualified operator collects four distribution samples and has them analyzed by a certified laboratory for HAA5. RAAs are calculated based on samples taken. Thirty-six months after the Stage 2 DBPR is promulgated, System B will calculate RAAs which must comply with the MCLs set forth in the Stage 1 DBPR. System B will calculate LRAAs 48 months after rule promulgation to ensure the system complies with an HAA5 Stage 2A MCL of 0.100 mg/L. Seventy-two months after rule promulgation, the operator will begin collecting samples at the locations specified in the new monitoring plan (which is based on Stage 1 DBPR, and the monitoring required under the IDSE), which will specify the 2 locations in the system with the highest TTHM levels, the location in the system with the highest HAA5 levels, and at least one of the compliance monitoring locations identified in the Stage 1 DBPR. Table 2-10 summarizes System B's monitoring requirements.

Table 2-10. System B Monitoring Summary

PARAMETER OR TASK	SAMPLE LOCATION			SAMPLE FREQUENCY			
	Plant	Entrance to Distribution System	Distribution System	Daily	Monthly	Quarterly	Annually or less than annually
Disinfectants:							
Chlorine/ Chloramines¹		X	X	X	X		
DBPs:							
TTHM /HAA5			X			X	
IDSE REQUIRED	YES	NO	Submit IDSE Report to Primacy Agency			YES	NO
	X					X	
Monitoring Plan REQUIRED	YES	NO	Submit Monitoring Plan to Primacy Agency			YES	NO
	X					X	

¹ This monitoring is required under the Stage 1 DBPR.

The qualified operator records the results on an HAA5 monitoring form each quarter for each sampling site and, at the end of each calendar quarter, calculates a quarterly average concentration of HAA5. The operator also calculates an annual average HAA5 concentration for the previous year (an RAA of the quarterly average for the quarter just completed and the average values for the three previous quarterly monitoring periods). The operator compares the result of the RAA to the HAA5 MCL of 0.060 mg/L. In addition, the operator will calculate the LRAAs (the RAA for each sampling location) and compare them to the Stage 2A HAA5 MCL of 0.100 mg/L beginning the fourth calendar quarter after the compliance date. A violation of the MCL for HAA5 is defined as any LRAA computed quarterly—for each sampling location—that exceeds the 0.100 mg/L MCL.

Example #3 - Stage 2A HAA5 Compliance Calculation After Fourth Quarter

Table 2-11 summarizes the HAA5 monitoring results for 200X [insert date 36 months after rule publication]. On December 20, 200X, System B's operator collects the four required HAA5 samples in the distribution system for the fourth quarterly period of 200X. The results are 0.038 mg/L for location 1, 0.012 mg/L for location 2, 0.060 mg/L for location 3, and 0.041 mg/L for location 4. The operator then adds these values to their respective locational results from the previous 3 quarters, divides the sum of each location's total results by 4, and then compares each result to the Stage 2A MCL.

Table 2-11. System B Fourth Quarter 200X HAA5 Monitoring Results

Month/Quarter		Plant #1 Distribution System Results (mg/L)			
		Location 1	Location 2	Location 3	Location 4
February 200(X)/Quarter 1		0.032	0.009	0.055	0.010
April 200(X)/Quarter 2		0.050	0.022	0.050	0.030
August 200(X)/Quarter 3		0.041	0.018	0.034	0.008
December 200X/Quarter 4		0.038	0.012	0.060	0.041
Compliance Calculations	Sum	0.161	0.061	0.199	0.089
	÷ 4	0.04025	0.01525	0.04975	0.02225
4 th Quarter LRAA		0.040 < 0.100	0.015 < 0.100	0.050 < 0.100	0.022 < 0.100

Example #3 Decision

At the end of the first year under Stage 2A, System B uses data from the first four quarters under Stage 2A to calculate LRAAs at the end of December. The fourth quarterly values are used in the fourth quarter of Stage 2A implementation, and these quarterly values are added to the quarterly values shown in Table 2-11. In the first year of Stage 2A, System B can not assume zeros, rather it must wait until it has four quarters of data (unless the system has committed a monitoring violation). The maximum calculated LRAA of 0.050 mg/L is less than the MCL of 0.100 mg/L set for HAA5. All HAA5 LRAAs are less than the Stage 2A MCL, and the system is in compliance for the fourth quarter of 200X.

Public Notice Requirements

Because the system is in compliance, no public notice is required for this parameter for this reporting period.

System Reporting Requirements

Although System B is in compliance with Stage 2A requirements for HAA5, the system must routinely report the information summarized in Table 2-6, according to the requirements of 40 CFR 141.134 and proposed §141.136(d), in addition to all required reporting information discussed in the *Primacy Agency Data Entry Instructions, with Examples, for Stage 1 Disinfectants and Disinfection Byproducts Rule* (EPA 816-R-02-012, January 2003) to the primacy agency.

Primacy Agency to SDWIS/FED Reporting

Because the system is in compliance, no SDWIS/FED reporting is required for this parameter for this reporting period.

Example #4 - Stage 2A RAA HAA5 Full Year Compliance Calculation

Table 2-12 summarizes the HAA5 monitoring results for 200Z [insert date 48 months after rule publication]. On June 20, 200Z, System B's operator collects the four required HAA5 samples in the distribution system for the second quarterly period of 200Z. The results are 0.071 mg/L for location 1, 0.054 mg/L for location 2, 0.080 mg/L for location 3, and 0.071 mg/L for location 4. The operator calculates an arithmetic average of the values and records the result on the HAA5 monitoring sheet. The arithmetic average for all sites for the second quarter of 200Z is 0.069 mg/L. The quarterly averages for the previous 3 quarters are: 0.042 mg/L, 0.092 mg/L, and 0.093 mg/L. The RAA for this period is 0.074 mg/L.

Table 2-12. System B Second Quarter 200Z HAA5 Monitoring Results

Quarter		Plant #1 Distribution System Results (mg/L)				
		Location 1	Location 2	Location 3	Location 4	Average of 4 locations for RAA
Quarter 3 200Z-1		0.028	0.042	0.045	0.052	0.042
Quarter 4 200Z-1		0.109	0.037	0.124	0.098	0.092
Quarter 1 200Z		0.089	0.062	0.091	0.129	0.093
Quarter 2 200Z		0.071	0.054	0.080	0.071	0.069
Compliance Calculation	Sum	0.297	0.195	0.340	0.350	0.296
	÷ 4	0.074	0.049	0.085	0.088	0.074
	2 nd Quarter LRAA	0.074 < 0.100	0.049 < 0.100	0.085 < 0.100	0.088 < 0.100	
	2 nd Quarter RAA					0.074 > 0.060

Example #4 Decision

System B is in compliance with the Stage 2A MCL for HAA5 at the end of June, 200Z for each sampling location. However, System B is not in compliance based on RAA, which is a violation of the Stage 1 DBPR.

Public Notice Requirements

System G must provide Tier 2 public notice of the TT violation according to the requirements of 40 CFR 141.201.

System Reporting Requirements

The reporting requirements for HAA5 are summarized in Table 2-6 and in the *Primacy Agency Data Entry Instructions, with Examples, for Stage 1 Disinfectants and Disinfection Byproducts Rule* (EPA 816-R-02-012, January 2003).

Primacy Agency to SDWIS/FED Reporting

Because the system is not in compliance, SDWIS/FED reporting is required for this parameter for this reporting period. See *Primacy Agency Data Entry Instructions, with Examples, for Stage 1 Disinfectants and Disinfection Byproducts Rule* (EPA 816-R-02-012, January 2003), for information on how to report a Stage 1 DBPR MCL violation.

Example #5 - Stage 2A LRAA HAA5 Full Year Compliance Calculation

On May 20, 200X [insert date 48 months after rule promulgation], System B's operator collects the four required HAA5 samples in the distribution system for the second quarterly period of 200X. The results are 0.109 mg/L for location 1, 0.010 mg/L for location 2, 0.068 mg/L for location 3, and 0.355 mg/L for location 4. The operator calculates an arithmetic average of the values for each sampling location by using the results from quarters 1 and 2 from the current year and quarters 3 and 4 from the previous year. The LRAA is 0.060 mg/L for location 1, 0.016 mg/L for location 2, 0.053 mg/L for location 3, and 0.109 mg/L for location 4.

Table 2-13. System B 200X HAA5 Monitoring Results

Month/Quarter		Plant #1 Distribution System Results (mg/L)				
		Location 1	Location 2	Location 3	Location 4	Average of 4 locations for RAA
August 200(X-1)/Quarter 3		0.050	0.022	0.050	0.030	0.038
November 200(X-1)/Quarter 4		0.041	0.018	0.034	0.008	0.025
Feb 200(X)/Quarter 1		0.038	0.012	0.060	0.041	0.038
May 200(X)/Quarter 2		0.109	0.010	0.068	0.355	0.136
Compliance Calculation	Sum	0.238	0.062	0.112	0.434	0.237
	÷ 4	0.060	0.016	0.053	0.109	0.059
	2 nd Quarter LRAA	0.060 < 0.100	0.016 < 0.100	0.053 < 0.100	0.109 > 0.100	
	2 nd Quarter RAA					0.059 < 0.060

Example #5 Decision

System B is in violation of the HAA5 Stage 2A MCL. The first quarter value for location 4 is 0.041 mg/L and the second quarterly value for location 4 is 0.355 mg/L. The operator then adds the locational results from quarter 1 and quarter 2 of 200X to the results from quarter 3 and quarter 4 of 200X-1 and calculates the LRAA for location 4 as 0.109 mg/L. The LRAA exceeds the HAA5 Stage 2A MCL of 0.100 mg/L. A violation of the HAA5 MCL at the end of May 200X must be reported for the compliance period April 1, 200X to June 30, 200X.

Beginning January 1, 200Z, System B must comply with the requirements of the LT2ESWTR as well as the requirements of the Stage 1 DBPR and Stage 2 DBPR. One LT2ESWTR requirement is that water systems avoiding filtration must comply with the requirements of the Stage 1 DBPR and Stage 2 DBPR as a condition of their filtration avoidance determination. In Example #3, System B has violated the HAA5 MCL and is therefore not in compliance with the Stage 2 DBPR. This system no longer is eligible for filtration avoidance and therefore the system is required to install filtration.

Public Notice Requirements

System B must provide Tier 2 public notice of this Stage 2A MCL violation according to the requirements of 40 CFR 141.201.

System Reporting Requirements

The reporting requirements for HAA5 are summarized in Table 2-6 and in the *Primacy Agency Data Entry Instructions, with Examples, for Stage 1 Disinfectants and Disinfection Byproducts Rule* (EPA 816-R-02-012, January 2003).

Primacy Agency to SDWIS/FED Reporting

The appropriate SDWIS/FED HAA5 Stage 2A MCL violation data elements are listed below. The primacy agency must also report these violations to EPA after the monitoring for the quarter is completed, even though the water system's noncompliance is known in advance. Table 2-14 shows the data elements and individual DTF transactions for SDWIS Reporting Code 02/2456.

Table 2-14. HAA5 MCL Violation Data Element Table and DTF Transactions

Data Elements:

<u>Number</u>	<u>Name</u>	<u>Value or Comment</u>
C0101	PWSID	<i>Qualifier 1</i>
C1101	Violation ID	<i>Qualifier 2</i>
C1103	Contaminant Code	2456
C1105	Violation Type Code	02
C1107	Compliance Period Begin Date	
C1109	Compliance Period End Date	<i>Must be 3 months later than C1107</i>
C1112	Severity Code	<i>Number of times the MCL is violated</i>
C1123	Violation Analysis Result	<i>LRAAs (mg/L) for analyses that led to the MCL violation</i>

DTF Transactions:

1-2	3-11	12-18	19-25	26	27-31	32-71	72-74	
D1	GA1234571	0200001		I	C1103	2456		
D1	GA1234571	0200001		I	C1105	02		
D1	GA1234571	0200001		I	C1107	200X0401		
D1	GA1234571	0200001		I	C1109	200X0630		
D1	GA1234571	0200001		I	C1112	1		
D1	GA1234571	0200001		I	C1123	0.172		

Example #6 - HAA5 Missing Samples

Table 2-15 summarizes System B's monitoring results for HAA5 through September 200X [insert date 84 months after rule promulgation]. On October 1, 200X, System B's operator returns from a vacation and finds that HAA5 samples were not collected as scheduled for the third quarter of 200X. Four HAA5 samples should have been taken in the third quarter.

System B's operator must calculate a LRAA at the end of the third quarter using the available data. Since the operator does not have sample results for the third quarter, the operator calculates the sums of the quarterly HAA5 values for the second and first quarters of 200X and the fourth quarter of 200X-1. The operator then divides that sum by 3 to produce the LRAA value to compare to the Stage 2B MCL for determining compliance.

Table 2-15. System B Third Quarter 200X HAA5 Monitoring Results

Quarter		Plant #1 Distribution System Results (mg/L)			
		Location 1	Location 2	Location 3	Location 4
Quarter 4 200X-1		0.101	0.040	0.130	0.102
Quarter 1 200X		0.090	0.061	0.089	0.130
Quarter 2 200X		0.078	0.052	0.076	0.066
Quarter 3 200X		No data	No data	No data	No data
Compliance Calculation	Sum	0.269	0.153	0.295	0.298
	÷ 3	0.090	0.051	0.098	0.099
	3 rd Quarter LRAA	0.090 < 0.100	0.051 < 0.100	0.098 < 0.100	0.099 < 0.100

Example #6 Decision

System B is in compliance with the HAA5 Stage 2B MCL at the end of the third quarter of 200X. However, the system has committed an M&R violation for failing to collect and analyze its HAA5 samples for the third quarter of 200X, and the state must report this violation SDWIS/FED.

Public Notice Requirements

Because the system is in compliance with the HAA5 Stage 2B MCL, no public notice is required for this parameter for this reporting period. However, the system is required to provide Tier 3 public notification to consumers because of its M&R violation (see the example of System D below).

System Reporting Requirements

Although System B is in compliance with the Stage 2B MCL for HAA5, the operator must routinely report the information presented in Table 2-6 in addition to all required reporting information discussed in the *Primacy Agency Data Entry Instructions, with Examples, for Stage 1 Disinfectants and Disinfection Byproducts Rule* (EPA 816-R-02-012, January 2003) to the primacy agency.

Primacy Agency to SDWIS/FED Reporting

Because the system is in compliance with the HAA5 Stage 2B MCL, no SDWIS/FED reporting is required for this parameter for this reporting period. For instructions on reporting M&R violations, see section 2.2.1.

2.2 Monitoring & Reporting Violations

M&R violations are reported for water systems failing to prepare and submit an IDSE report or a monitoring plan, monitor the required parameters for the required number of samples, or report the

results of monitoring for the required number of samples. Table 2-16 presents a summary of all M&R violation reporting codes.

Table 2-16. SDWIS/FED Codes for Federal Reporting Under the Stage 2 DBPR

Violation Code ¹	Contaminant Code	Monitoring and Reporting Violations
03	2950, 2456	Failure to monitor or report LRAA and compliance calculations for TTHM or HAA5.
39	DBP2	Failure to conduct an IDSE, to submit an IDSE report, or to use an IDSE alternative.
39	DBP2	Failure to develop and implement a DBP monitoring plan.
03	1011	Failure to resume routine monthly bromate monitoring if RAA is ≥ 0.0025 mg/L for reduced quarterly monitoring or if system fails to analyze samples using Method 317.0 Revision 2.0, 326.0, or 321.8.

¹ A SDWIS field is used to distinguish between major or minor for M&R violations where appropriate.

2.2.1 Types 03/2950 and 03/2456: LRAA and Compliance Calculations for TTHM and HAA5 M&R Violations

General Comments Regarding SDWIS/FED Reporting

When reporting to SDWIS/FED, the compliance period begin date to be reported for PWSs that incur this type of violation depends upon which M&R provision was violated. For PWSs that fail to monitor or report an LRAA and its compliance calculation for TTHM and HAA5, the compliance period begin date is 36 months after rule promulgation, regardless of a system's size, source, or treatment type.

For NTNCWSs and CWSs that add primary or residual disinfectant other than UV light, or deliver such water, the compliance period begin date by which a system must develop and implement a DBP monitoring plan is 72, 90, or 102 months after rule promulgation, depending on the system's size and whether a system must also monitor for *Cryptosporidium* under the LT2ESWTR.

For CWSs or NTNCWSs that serve at least 10,000 people and that add a primary or residual disinfectant other than UV light or deliver such water, the compliance deadline for conducting the required IDSE, submitting an IDSE, or using an IDSE alternative is 24 months after publication of the rule for Subpart H systems serving at least 10,000 people, 48 months after publication of the rule for Subpart H CWSs serving fewer than 10,000 people, and at the same time as the system with the earliest compliance date in the combined distribution system for consecutive systems.

The deadlines for NTNCWSs and CWSs to develop, submit to the primacy agency, and implement a DBP monitoring plan is 72 months after publication for Subpart H and ground water systems serving at least 10,000 people, 90 months for Subpart H and ground water systems serving fewer than 10,000 people that are not required to conduct *Cryptosporidium* monitoring, 102 months for Subpart H systems serving fewer than 10,000 people that are required to conduct *Cryptosporidium* monitoring, and at the same time as the system with the earliest compliance date in the combined distribution system for consecutive systems.

A water system is considered out of compliance until the primacy agency is satisfied that the PWS has met the requirements of these provisions. Since the date when the PWS regains compliance may not be known at the time the primacy agency must report to SDWIS/FED, the SDWIS/FED data system has been designed to default the compliance period date of the violation to a date in the future (December 31, 2050). When the water system regains compliance with these requirements, the primacy agency must submit a “returned to compliance” enforcement action and link it to the original violation. The enforcement action date shall be when the primacy agency is satisfied with the PWS monitoring plan or when the primacy agency receives the monitoring plan. When this enforcement action is posted to the SDWIS/FED database and linked to the violation, the actual date of compliance replaces the default compliance period end date supplied with the original report to SDWIS/FED.

2.2.1.1 Subpart H at Least 10,000 People

Cross-reference to Stage 2 DBPR Implementation Guidance:

Section 1, pages 32- 36, 42

Section 5, pages 95-96

Cross-reference to Rule:

Proposed §141.64(b)

Proposed §141.136(a) through (d)

Proposed §141.620(d)

Proposed §141.605

Proposed §141.621

Table 2-17. SDWIS/FED Codes for Federal Reporting Under the Stage 2 DBPR

Violation Code ¹	Contaminant Code	Monitoring and Reporting Violations
03	2950, 2456	Failure to monitor or report LRAA and its compliance calculations for TTHM and HAA5.

¹ A SDWIS field is used to distinguish between major or minor for M&R violations where appropriate.

Example System Description - System C

System C is a large Subpart H system serving 10,050 people that uses surface water and GWUDI. All water from the surface water and GWUDI sources is treated at the same conventional filtration plant. Chlorine is used as a disinfectant.

System C Summary

Population Served: 10,050
 Source #1: GWUDI
 Source #2: Surface water
 Treatment #1: (serves both sources) conventional filtration, chlorine

The Stage 2A TTHM and HAA5 monitoring requirements are effective for System C until [insert 36 months after rule promulgation], and Stage 2B monitoring requirements are effective for System C until [insert 72 months after rule promulgation]. In this example, System C has completed their IDSE report

and has submitted their new monitoring plan to their primacy agency on time. The Stage 2 DBPR includes a requirement for all CWSs and NTNCWSs that serve more than 10,000 people and that add a primary or residual disinfectant other than UV light or deliver such water to monitor for TTHM and HAA5 at locations determined by the system's IDSE. Monitoring is performed according to the requirements of proposed §141.620(d) in the distribution system at a frequency of four dual sample sets per quarter per treatment plant, taken approximately every 90 days. One quarterly set must be taken during the peak historical month for DBP concentrations. System C's qualified operator collects four dual samples for TTHM and HAA5, as described in the system's monitoring plan and in conformance with the sample location descriptions included in proposed §141.621(a). Samples are analyzed by a certified laboratory. Table 2-18 presents a summary of System C's Stage 2 DBPR monitoring requirements.

Table 2-18. System C Monitoring Summary

PARAMETER OR TASK	SAMPLE LOCATION		SAMPLE FREQUENCY			
TTHM/HAA5	Locations recommended to the state in the IDSE report submitted under proposed §141.600–605.		Four dual sample sets per quarter per treatment plant, taken approximately every 90 days. One quarterly set must be taken during the peak historical month for DBP concentrations.			
IDSE Report	YES	NO	Submit IDSE Report to Primacy Agency	YES	NO	
	X			X		
Monitoring Plan REQUIRED	YES	NO	Submit Monitoring Plan to Primacy Agency	YES	NO	
	X			X		

The operator records the TTHM and HAA5 results on a monitoring form. A reduced monitoring schedule (one dual sample per quarter at the location with the highest TTHM LRAA and one dual sample per quarter at the location with the highest HAA5 LRAA) is allowed after at least 1 year of routine monitoring for either parameter. A system may go to reduced monitoring, if the system's source water annual average TOC level, before any treatment, is less than or equal to 4.0 mg/L and the LRAA concentration is less than or equal to 0.040 mg/L for TTHM and 0.030 mg/L for HAA5 (50 percent of the established MCL),.

Systems that qualify for reduced monitoring may remain on reduced monitoring for Stage 2B as long as the TTHM LRAA is less than or equal to 0.040 mg/L and the HAA5 LRAA is less than or equal to 0.030 mg/L at each monitoring location for systems with quarterly monitoring. In addition, the source water annual average TOC level, before any treatment, must be less than or equal to 4.0 mg/L at each treatment plant treating surface water or GWUDI, based on monitoring conducted under either 40 CFR 141.132(d) or 40 CFR 141.132(g). If the LRAA at any location exceeds either 0.040 mg/L for TTHM or 0.030 mg/L for HAA5 or if the source water annual average TOC level, before any treatment, exceeds 4.0 mg/L at any treatment plant treating surface water or GWUDI, the system must resume routine monitoring for all treatment plants or begin increased monitoring for all treatment plants if proposed §141.625 applies.

Example #7 - M&R TTHM and HAA5 200X [insert date 36 months after rule publication]

Table 2-19 summarizes System C's TTHM and HAA5 monitoring results for 200X. On December 31, 200X, System C's operator reviews the TTHM and HAA5 data collected for 200X.

Table 2-19. System C 200X TTHM and HAA5 Monitoring Results (mg/L)

Parameter	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	LRAA
TTHM			0.061			0.065			0.069			0.026	0.055
MCL =			0.055			0.063			0.066			0.024	0.052
0.080			0.053			0.059			0.063			0.021	0.049
mg/L			0.051			0.062			0.055			0.017	0.046
HAA5			0.060			0.077			0.079			0.018	0.059
MCL =			0.051			0.044			0.049			0.019	0.041
0.060			0.049			0.055			0.062			0.023	0.047
mg/L			0.043			0.052			0.086			0.025	0.052
TOC	3.3	3.1	3.0	5.3	4.6	3.9	4.0	5.9	5.0	2.2	2.4	3.9	
Source water													
TOC QAvg			3.1			4.6			5.0			4.6	3.7 ¹

¹ Annual average for TOC

QAvg = Quarterly arithmetic average value

LRAA = Locational running annual arithmetic average value

Example #7 Decision

System C has collected and analyzed all of the necessary samples for TTHM and HAA5 during the first full year after the applicable date of the rule. The data for System C shows that there are no M&R violations for either TTHM or HAA5, and there are no Stage 2A MCL violations during this period. The source water TOC monitoring shows that the annual average TOC concentration is 3.7 mg/L, which is less than or equal to 4.0 mg/L, fulfilling one condition for reduced monitoring. However the system may not reduce monitoring because the LRAA TTHM concentration exceeds 0.040 mg/L, and the LRAA HAA5 concentration exceeds 0.030 mg/L (the thresholds represent 50 percent of the MCL values.)

Public Notice Requirements

Because the system is in compliance, no public notice is required for this parameter for this reporting period.

System Reporting Requirements

Although System C is in compliance with the Stage 2 DBPR for TTHM and HAA5 monitoring, the system must routinely report the information included in Table 2-6 in addition to all required reporting information discussed in the *Primacy Agency Data Entry Instructions, with Examples, for Stage 1*

Disinfectants and Disinfection Byproducts Rule (EPA 816-R-02-012, January 2003) to the primacy agency.

Primacy Agency to SDWIS/FED Reporting

Because the system is in compliance, no SDWIS/FED reporting is required for this parameter for this reporting period.

Example #8 - M&R for TTHM and HAA5 200X–200Z [insert dates 72-84 months after rule publication]

Table 2-20 summarizes System C's monitoring results for 200Z. On June 30, 200Z, System C's operator reviews the system's monitoring data for the past year, including the third quarter of 200X, the fourth quarter of 200X (from Table 2-19), the first quarter of 200Z, and the second quarter of 200Z. As displayed in the Tables, the operator has calculated the LRAA for TTHM and HAA5 and the RAA for source water TOC.

Table 2-20. System C 200Z TTHM and HAA5 Monitoring Results (mg/L)

Parameter	JUL	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	LRAA
TTHM MCL = 0.080 mg/L			0.069 0.066 0.063 0.055			0.026 0.024 0.021 0.017			0.029 0.025 0.023 0.021			0.060 0.054 0.051 0.047	0.046 0.042 0.040 0.035
HAA5 MCL = 0.060 mg/L			0.079 0.049 0.062 0.086			0.018 0.019 0.023 0.025			0.020 0.031 0.029 0.023			0.040 0.039 0.033 0.035	0.039 0.035 0.037 0.042
TOC Source water	4.0	5.9	5.0	2.2	2.4	3.9	4.0	5.9	5.0	5.3	4.6	2.1	
TOC Q Avg			5.0			4.6			5.0			2.2	3.7 ¹

¹ Annual average for TOC

Q Avg = Quarterly arithmetic average value

LRAA = Locational running annual arithmetic average value

Example #8 Decision

Again, System C's operator concludes that the system has no M&R violations to report for the period July 1, 200X to June 30, 200Z. Additionally, the system is in compliance with the Stage 2B MCLs for HAA5 (0.060 mg/L) and TTHM (0.080 mg/L) calculated as a LRAA of quarterly average values for the 12 month period ending June 30, 200Z.

System C is not eligible for reduced monitoring after **June 30, 200Z**, because the system data shows that it does not meet all conditions specified in proposed §141.623. The annual average for source water TOC is less than 4.0 mg/L, however, neither the TTHM nor the HAA5 LRAA concentrations are below the levels specified in the rule as a prerequisite for reduced monitoring.

Public Notice Requirements

Because the system is in compliance, no public notice is required for this parameter for this reporting period.

System Reporting Requirements

Although System C is in compliance with the Stage 2 DBPR for TTHM and HAA5, the system must routinely report the information included in Tables 2-11 in addition to all required reporting information discussed in the *Primacy Agency Data Entry Instructions, with Examples, for Stage 1 Disinfectants and Disinfection Byproducts Rule* (EPA 816-R-02-012, January 2003) to the primacy agency.

Primacy Agency to SDWIS/FED Reporting

Because the system is in compliance, no SDWIS/FED reporting is required for this parameter for this reporting period.

Example #9 - M&R for TTHM and HAA5 **200X** [insert dates 108 months after rule publication]

On December 31, **200X**, System C's operator reviews the data for the system for the calendar year (four quarters) of **200X**.

Table 2-21. System C **200X TTHM and HAA5 Monitoring Results (mg/L)**

Parameter	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	LRAA
<u>TTHM</u> MCL = 0.080 mg/L			0.029 0.020 0.023 0.021			0.050 0.052 0.048 0.047			0.055 0.062 0.054 0.055			0.019 0.022 0.021 0.017	0.038 0.039 0.037 0.035
<u>HAA5</u> MCL = 0.060 mg/L			0.020 0.025 0.024 0.023			0.034 0.030 0.032 0.025			0.042 0.038 0.042 0.046			0.018 0.019 0.017 0.019	0.029 0.028 0.029 0.028
<u>TOC</u> Source water	4.0	5.9	5.0	5.3	4.6	2.1	4.0	5.9	5.0	2.2	2.4	3.9	
TOC Q Avg			5.0			2.2			5.0			4.6	3.7 ¹

¹ Annual average for TOC

Q Avg = Quarterly arithmetic average value

LRAA = Locational running annual arithmetic average value

Example #9 Decision

There are no M&R violations and no MCL violations at this time. Since there are no TTHM or HAA5 violations, the water system is in compliance with the rule requirements as they apply to TTHM and HAA5 for these monitoring periods. Based on the results of the past year the system can qualify for a reduction in monitoring for TTHM and HAA5, after December 31, 200X, because its annual average for source water TOC (3.7 mg/L) is less than or equal to 4.0 mg/L, its LRAA TTHM concentrations are no more than 0.040 mg/L, and its LRAA HAA5 concentrations are no more than 0.030 mg/L. After consulting with the state, the operator is allowed to begin, in the first quarter of 200X+1, taking TTHM and HAA5 samples on a frequency of two dual samples per quarter at the location with the highest TTHM and HAA5 LRAAs. The operator can continue to sample at this reduced frequency as long as the RAA source water TOC concentration is less than or equal to 4.0 mg/L, the HAA5 LRAA concentration does not exceed 0.030 mg/L, and the TTHM LRAA concentration does not exceed 0.040 mg/L. The system must return to a routine monitoring schedule in the first quarter following a quarter when these values are exceeded.

Public Notice Requirements

Because the system is in compliance, no public notice is required for this parameter for this reporting period.

System Reporting Requirements

Although System C is in compliance with the Stage 2 DBPR for TTHM and HAA5, the system must routinely report the information included in Table 2-6 in addition to all required reporting information discussed in the *Primacy Agency Data Entry Instructions, with Examples, for Stage 1 Disinfectants and Disinfection Byproducts Rule* (EPA 816-R-02-012, January 2003) to the primacy agency.

Primacy Agency to SDWIS/FED Reporting

Because the system is in compliance, no SDWIS/FED reporting is required for this parameter for this reporting period.

2.2.1.2 Subpart H System Serving 500 to 9,999 People

Cross-reference to Stage 2 DBPR Implementation Guidance:

Section 1, pages 32- 36, 42

Section 5, pages 95-96

Cross-reference to Rule:

Proposed §141.64(b)

Proposed §141.136(a) through (d)

Proposed §141.620(d)

Proposed §141.605

Proposed §141.621

Example System Description - System D

System D is a small Subpart H system serving 8,900 people (at least 500 people but no more than 9,999 people) to which the requirements of Stage 2 DBPR are applicable on or before 90 months following publication if no *Cryptosporidium* monitoring is required and 102 months following publication if *Cryptosporidium* monitoring is required under proposed §141.706(c).

The system uses surface water treated in one conventional filtration plant. The system uses chlorine as a chemical disinfectant applied at one location and must monitor TTHM and HAA5 according to the requirements of proposed §141.621(a). Samples must be taken in the distribution system at a frequency of two dual sample sets every 90 days per treatment plant. One quarterly set must be taken during the peak historical month for DBP concentrations. All monitoring must take place at the locations recommended to the primacy agency in the IDSE report submitted under proposed §141.600–605.

System D Summary

Population Served: 8,900
Source: Surface water
Treatment: Conventional filtration, chlorine

Example #10 - M&R for TTHM and HAA5 Small System Quarterly

Table 2-22 presents a summary of System D's TTHM and HAA5 monitoring results for year 200X [insert date 48 months after rule publication].

Table 2-22. System D 200X TTHM and HAA5 Monitoring Results (mg/L)

	200X-1						200X						
Parameter	JUL	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	LRAA
TTHM			0.068			0.070			0.070			NS	0.069
MCL = 0.080 mg/L			0.072			0.070			0.068			NS	0.070
HAA5			0.042			0.055			0.038			NS	0.045
MCL = 0.060 mg/L			0.040			0.060			0.046			NS	0.049

NS=No sample taken

LRAA=Locational running annual average

On July 1, 200X, System D's operator reviews the data for the first and second quarters of 200X. System D did not complete the necessary monitoring of TTHM and HAA5 for the second quarter of 200X.

Example #10 Decision

System D's sampling record shows a major M&R violation in the second quarter of 200X resulting from a failure to take at least 90% of the required samples. In this case, when only one sample per quarter is required, the failure to take it is a major M&R violation for the quarter. In this case, when the system failed to take both samples required for the second quarter, it is a major M&R violation for the second quarter of 200X and must be reported to SDWIS for both TTHM and HAA5.

Public Notification Requirements

System D must provide Tier 3 public notice of this TTHM and HAA5 M&R violation according to the requirements of 40 CFR 141.201.

System Reporting Requirements

System D must routinely report the information summarized in Tables 2-11 in addition to all required reporting information discussed in the *Primacy Agency Data Entry Instructions, with Examples, for Stage 1 Disinfectants and Disinfection Byproducts Rule* (EPA 816-R-02-012, January 2003) to the primacy agency.

Primacy Agency to SDWIS/FED Reporting

The appropriate SDWIS/FED TTHM and HAA5 M&R violation data elements and individual DTF transactions are listed below in Tables 2-22a and 2-22b. Note that two violations are to be reported; one for TTHM and the other for HAA5 (SDWIS Reporting Code 03/2950 for TTHM and 03/2456 for HAA5).

Table 2-23a. TTHM M&R Violation Data Element Table and Individual DTF Transactions

Data Elements:

<u>Number</u>	<u>Name</u>	<u>Value or Comment</u>
C101	PWSID	<i>Qualifier 1</i>
C1101	Violation ID	<i>Qualifier 2</i>
C1103	Contaminant Code	2950
C1105	Violation Type Code	03
C1107	Compliance Period Begin Date	
C1109	Compliance Period End Date	<i>Last day of quarter in which the LRAA calculation period contains one or more missed samples</i>
C1131	Major Violation Flag	<i>Y or N (Major is defined as reporting <90% of required samples, Minor as any other failure to report)</i>

DTF Transactions:

1-2	3-11	12-18	19-25	26	27-31	32-71	72-74	75-80
D1	GA1234579	0400001		I	C1103	2950		
D1	GA1234579	0400001		I	C1105	03		
D1	GA1234579	0400001		I	C1107	200X0401		
D1	GA1234579	0400001		I	C1109	200X0630		
D1	GA1234579	0400001		I	C1131	Y		

Table 2-23b. HAA5 M&R Violation Data Element Table and Individual DTF Transactions

Data Elements:

<u>Number</u>	<u>Name</u>	<u>Value or Comment</u>
C101	PWSID	<i>Qualifier 1</i>
C1101	Violation ID	<i>Qualifier 2</i>
C1103	Contaminant Code	2456
C1105	Violation Type Code	03
C1107	Compliance Period Begin Date	
C1109	Compliance Period End Date	<i>Last day of quarter in which the LRAA calculation period contains one or more missed samples</i>
C1131	Major Violation Flag	<i>Y or N (Major is defined as reporting <90% of required samples, Minor as any other failure to report)</i>

DTF Transactions:

1-2	3-11	12-18	19-25	26	27-31	32-71	72-74	75-80
D1	GA1234579	0400001		I	C1103	2456		
D1	GA1234579	0400001		I	C1105	03		
D1	GA1234579	0400001		I	C1107	200X0401		
D1	GA1234579	0400001		I	C1109	200X0630		
D1	GA1234579	0400001		I	C1131	Y		

2.2.1.3 Subpart H System Serving Fewer than 500 People

Cross-reference to Stage 2 DBPR Implementation Guidance:

Section 1, pages 32- 36, 42

Section 5, pages 95-96

Cross-reference to Rule:

Proposed §141.64(b)

Proposed §141.136(a) through (d)

Proposed §141.620(d)

Proposed §141.605

Proposed §141.621

If a Subpart H system that serves less than 500 people and is required to collect and report one TTHM and HAA5 sample per plant per year fails to collect that sample, the failure results in an M&R violation for the calendar year in which no sample was collected. The appropriate data elements and DTF transactions would be as shown in Tables 2-23a and 2-23b, except the Compliance Period Begin Date, data element C1107, should be entered as January 1 of the appropriate year, and the Compliance Period

End Date, data element C1109, should be entered as December 31 of that same year. The M&R violation is a major violation signified by a “Y” for data element C1131.

2.2.1.4 Ground Water System Serving at Least 10,000 People

Cross-reference to Stage 2 DBPR Implementation Guidance:

Section 1, pages 32- 36, 42

Section 5, pages 95-96

Cross-reference to Rule:

Proposed §141.64(b)

Proposed §141.136(a) through (d)

Proposed §141.620(d)

Proposed §141.605

Proposed §141.621

If a ground water system that is determined not to be under the direct influence of surface water and serves at least 10,000 people fails to collect and report the necessary two dual sample sets per quarter per treatment plant for TTHM and HAA5, the failure results in an M&R violation for the quarter in which the sample was not taken. The appropriate data elements and DTF transactions would be as shown in Tables 2-23a and 2-23b, except the Begin and End Dates of Compliance Period should be the begin and end dates of the quarter in which the violation took place. The M&R violation is a Major violation if the sample missed results in less than 90 percent of the samples required being collected in that quarter. A major M&R violation is signified by a “Y” for data element C1131.

2.2.1.5 Ground Water System Serving Between 500-9,999 People

Cross-reference to Stage 2 DBPR Implementation Guidance:

Section 1, pages 32- 36, 42

Section 5, pages 95-96

Cross-reference to Rule:

Proposed §141.64(b)

Proposed §141.136(a) through (d)

Proposed §141.620(d)

Proposed §141.605

Proposed §141.621

If a ground water system, determined not to be under the direct influence of surface water and serving between 500 and 9,999 people, fails to collect and report the necessary two dual sample sets per plant per year for TTHM and HAA5, the failure results in an M&R violation for the calendar year in which no sample was collected. The appropriate data elements and DTF transactions would be as shown in Table 2-22, except the Compliance Period Begin and End Dates should be the beginning and end of the calendar year in which the violation took place. The M&R violation is a major violation signified by a “Y” for data element C1131.

2.2.1.6 Ground Water System Serving Fewer than 500 People

Cross-reference to Stage 2 DBPR Implementation Guidance:

Section 1, pages 32- 36, 42

Section 5, pages 95-96

Cross-reference to Rule:

Proposed §141.64(b)

Proposed §141.136(a) through (d)

Proposed §141.620(d)

Proposed §141.605

Proposed §141.621

If a ground water system which is determined not to be under the direct influence of surface water and serves fewer than 500 people, fails to collect and report the necessary one single TTHM sample at the high TTHM site and the one single HAA5 sample at the high HAA5 site at each plant every year, the failure results in an M&R violation for the calendar year in which no sample was collected. The appropriate data elements and DTF transactions would be as shown in Table 2-23a and 2-23b, except the Compliance Period Begin and End Dates should be the beginning and end of the calendar year in which the violation took place. The M&R violation is a major violation signified by a “Y” for data element C1131.

2.2.1.7 Consecutive System Buying Some but not All of its Finished Water

Cross-reference to Stage 2 DBPR Implementation Guidance:

Section 1, pages 32- 36, 42

Section 5, pages 95-96

Cross-reference to Rule:

Proposed §141.64(b)

Proposed §141.136(a) through (d)

Proposed §141.620(d)

Proposed §141.605

Proposed §141.621

If a consecutive system that purchases some but not all of its water fails to collect and report the required samples for TTHM and HAA5 (based on consecutive system’s population and source water, except that consecutive systems that receive water from a Subpart H system must monitor as a Subpart H system), the failure results in an M&R violation for the calendar year in which no sample was collected. The appropriate data elements and DTF transactions would be as shown in Table 2-23a and 2-23b, except the Compliance Period Begin and End Dates should be the beginning and end of the calendar year in which the violation took place. The M&R violation is a major violation signified by a “Y” for data element C1131.

2.2.1.8 Consecutive Systems Buying All of Their Finished Water

Cross-reference to Stage 2 DBPR Implementation Guidance:

Section 1, pages 32- 36, 42

Section 5, pages 95-96

Cross-reference to Rule:

Proposed §141.64(b)
Proposed §141.136(a) through (d)
Proposed §141.620(d)
Proposed §141.605
Proposed §141.621

If a consecutive system that purchases all of its water fails to collect and report the necessary samples for TTHM and HAA5 (as specified in proposed §141.605—IDSE monitoring requirements for consecutive systems that purchase all their water), the failure results in an M&R violation for the calendar year in which no sample was collected. The appropriate data elements and DTF transactions would be as shown in Table 2-23a and 2-23b, except the Compliance Period Begin and End Dates should be the beginning and end of the calendar year in which the violation took place. The M&R violation is a major violation signified by a “Y” for data element C1131.

2.2.2 **Type 39/DBP2: Conducting an IDSE and Submitting the IDSE Report by Specified Date, or Using IDSE Alternatives**

Cross-reference to Stage 2 DBPR Implementation Guidance:

Section 1, pages 22-28, 42
Section 5, page 96

Cross-reference to Rule:

Proposed §141.600
Proposed §141.601
Proposed §141.602
Proposed §141.603
Proposed §141.604

Table 2-24. IDSE - Monitoring and Reporting Violation

Violation Code	Contaminant Code	Violation Description
39	DBP2	Failure to conduct an IDSE and submit an IDSE report, or to use an IDSE alternative.

Example System Description - System E

System E is a large Subpart H system that serves 14,000 people, purchases finished surface water year round, and treats its own surface water from a lake. The surface water is treated at a conventional filtration plant that uses chlorine as a disinfectant.

System E Summary

Population Served: 14,000
Source: Purchased surface water, surface water (from lake)
Treatment #1: Conventional filtration, chlorine (to treat surface water from lake)

Because System E serves more than 10,000 people, its IDSE report is due on [insert date 24 months after publication] under the Stage 2 DBPR. IDSEs are studies used in conjunction with Subpart L compliance monitoring under the Stage 1 DBPR to identify and select compliance monitoring sites that represent high TTHM and HAA5 levels throughout the distribution system. Each study will be based on system-specific monitoring as proposed §141.602. All CWSs and any NTNCWSs that serves 10,000 or more people that add a primary or residual disinfectant other than UV light or deliver such water must comply with this requirement.

Consecutive systems must comply with IDSE requirements based on whether they buy some or all of their water from another PWS. Consecutive systems must comply with the [insert date 24 months after publication] if any system in the combined distribution system serves more than 10,000 people. If none of the systems in the combined distribution serve more than 10,000 people consecutive systems must complete an IDSE by [insert date 48 months after publication]. A consecutive system that buys some but not all of its finished water during the period identified in this paragraph must treat each entry point from a wholesale system as a treatment plant for the purpose of determining monitoring requirements of this subpart if water is delivered from the wholesale system to the consecutive system for at least 60 days through that entry point. A consecutive system that buys all its finished water during the period identified in this paragraph must monitor based on population and source water.

IDSE reports must include all TTHM and HAA5 analytical results from compliance monitoring conducted during the period of the IDSE and a schematic of the distribution system (with results, location, and date of all IDSE monitoring, system-specific study monitoring, and compliance monitoring). Reports must also include all additional data relied on to justify IDSE monitoring site selection, the original monitoring plan developed under proposed §141.602, and an explanation of any deviations from that plan. If a system used the system-specific study alternative, the report must include the basis by which it was determined that the recommended monitoring sites represented TTHM and HAA5 levels comparable or superior to those that would have otherwise been identified under proposed §141.602.

Example #11: Failure to Submit an IDSE Plan

On [insert date 24 months after publication], System E's qualified operator completes the IDSE plan. The operator submits the plan to the primacy agency. A copy is placed on file at the treatment plant and at the system offices for inspection by the public and the primacy agency. However, System E has not included all required distribution system samples. The system is required to collect a total of 16 dual sample sets because 8 sample sets per plant are required and the system's consecutive entry point is considered to be a plant. Only 4 of the 16 required dual sample sets for the monitoring period are included in the plan.

Example #11 Decision

System E is in violation of the Stage 2 DBPR for failing to submit a complete IDSE report prior to [insert date 24 months after publication] even though the system submitted a report to the primacy agency before the compliance deadline.

Public Notice Requirements

System E must provide Tier 3 public notice of this IDSE M&R violation according to the requirements of 40 CFR 141.201. There may be additional state-specified requirements.

System Reporting Requirements

There are no system reporting requirements for this parameter in this situation.

Primacy Agency to SDWIS/FED Reporting

The appropriate SDWIS/FED IDSE report violation data elements and DTF transactions are listed below in Table 2-25 for SDWIS Reporting Code 39/DBP2.

Table 2-25. IDSE M&R Violations Data Element Table and Individual DTF Transactions

Data Elements:

<u>Number</u>	<u>Name</u>	<u>Value or Comment</u>
C0101	PWSID	<i>Qualifier 1</i>
C1101	Violation ID	<i>Qualifier 2</i>
C1103	Contaminant code	DBP2
C1105	Violation Type code	39
C1107	Compliance Period Begin Date	
C1201	Enforcement ID	<i>Qualifier 2</i>
C1203	Enforcement Date	
C1205	Follow-up Action	SOX (State Action - compliance achieved)
Y5000	Associated Violation ID	0200005 (Violation ID)

DTF Transactions:

1-2	3-11	12-18	19-25	26	27-31	32-71	72-74	75-80
D1	GA1234579	0200005		I	C1103			
D1	GA1234579	0200005		I	C1105			
D1	GA1234579	0200005		I	C1107	200X-10410		
E1	GA1234579	0200001		I	C1203	200X-10701		
E1	GA1234579	0200001		I	C1205	SOX		
E1	GA1234579	0200001		I	Y5000	0200005		

2.2.3 **Type 39/DBP2: Failure to Submit DBP Monitoring Plan to Primacy Agency M&R Violation**

Cross-reference to Stage 2 DBPR Implementation Guidance:

Section 1, pages 32-33, 37

Section 5, page 96

Cross-reference to Rule:

Proposed §141.620

Proposed §141.622

Table 2-26. Monitoring Plan – M&R Violation

Violation Code	Contaminant Code	Violation Description
39	DBP2	Failure to develop and implement a DBP monitoring plan.

Example System Description - System F

System F Summary

System F is a large Subpart H community water system serving 100,000 people that has a surface water source and a GWUDI source. The surface water source is treated with a conventional filtration plant, and the GWUDI source is membrane filtered. All sources are disinfected with chlorine. The system is required to monitor according to proposed §141.620(d). The system utilizes two plants known as TP 1 and TP 2.

Population Served: 100,000
Source #1: Surface water
Treatment #1: Conventional filtration, chlorine
Source #2: GWUDI
Treatment: Membrane filtration, chlorine

Any system required to monitor under the provisions of the Stage 2 DBPR is required to develop and implement a monitoring plan. System F's qualified operator must prepare a plan that includes (at a minimum) the elements listed in proposed §141.622(a). Because System F serves more than 3,300 people, the operator must also submit a copy of the monitoring plan to the primacy agency prior to the date that the system has to begin complying with the plan, as described in proposed §141.622(c). According to proposed §141.620(c), the effective date of the rule for System F is [insert date 72 months following publication].

Example #12 - Failure to Submit a DBP Monitoring Plan

On [insert date prior to compliance deadline], System F's operator completes the monitoring plan and includes all of the elements described in proposed §141.622(a). A copy is placed on file at the treatment plant and at the system offices and is available for inspection by the public and the primacy agency. On [insert date 72 months following publication], the operator begins to monitor in accordance with the plan.

Table 2-27 summarizes System F's monitoring requirements. On [insert date at end of first quarter of monitoring], the records show that the operator has collected, analyzed, and recorded the appropriate data for all samples required under the terms of the monitoring plan. The operator calculates compliance based upon the requirements of the monitoring plan and submits the appropriate compliance information to the primacy agency within 10 days after the end of the quarter [insert date 10 days after the end of the first quarter of monitoring]. Although System F completed its monitoring plan, System F did not submit its plan to the primacy agency prior to the date that the system has to begin complying with the plan.

Table 2-27. System F Monitoring Summary

PARAMETER OR TASK	SAMPLE LOCATION		SAMPLE FREQUENCY		
TTHM/HAA5	Locations recommended to the state in the IDSE report submitted under proposed §141.600–605.		Four dual sample sets per quarter per treatment plant, taken approximately every 90 days. One quarterly set must be taken during the peak historical month for DBP concentrations.		
IDSE Report	YES	NO	Submit IDSE Report to Primacy Agency	YES	NO
	X			X	
Monitoring Plan REQUIRED	YES	NO	Submit Monitoring Plan to Primacy Agency	YES	NO
	X			X	

Example #12 Decision

System F is in violation of the Stage 2 DBPR for failing to submit its monitoring plan to the primacy agency by [insert date prior to 72 months following rule promulgation], even though the plan was prepared and implemented properly. Subsequently, the primacy agency received the monitoring plan on [insert date following the violation].

Public Notice Requirements

System F must provide Tier 3 public notice of the M&R violation according to the requirements of 40 CFR 141.201.

System Reporting Requirements

There are no system reporting requirements for this violation.

Primacy Agency to SDWIS/FED Reporting

The appropriate SDWIS/FED Monitoring Plan M&R violation data elements and DTF transactions are listed below in Table 2-28 for SDWIS Reporting Code 39/DBP2.

Table 2-28. Monitoring Plan M&R Violation and RTC Data Element Table and DTF Transactions

Data Elements:

<u>Number</u>	<u>Name</u>	<u>Value or Comment</u>
C0101	PWSID	<i>Qualifier 1</i>
C1101	Violation ID	<i>Qualifier 2</i>
C1103	Contaminant code	DBP2
C1105	Violation Type code	39
C1107	Compliance Period Begin Date	
C1201	Enforcement ID	<i>Qualifier 2</i>
C1203	Enforcement Date	
C1205	Follow-up Action	SOX (<i>State Action- compliance achieved</i>)
Y5000	Associated Violation ID	0200005 (<i>Violation ID</i>)

DTF Transactions:

1-2	3-11	12-18	19-25	26	27-31	32-71	72-74	75-80
D1	GA1234579	0200005		I	C1103	DBP2		
D1	GA1234579	0200005		I	C1105	39		
D1	GA1234579	0200005		I	C1107	200X+60410		
E1	GA1234579	0200001		I	C1203	200X+60701		
E1	GA1234579	0200001		I	C1205	SOX		
E1	GA1234579	0200001		I	Y5000	0200005		

2.2.4 Type 03/1011: Bromate M&R Violation

Cross-reference to Stage 2 DBPR Implementation Guidance:

Section 1, page 39

Section 5, page 97

Cross-reference to Rule:

Proposed §141.132 (b)(3)(ii)

Table 2-29. Bromate – M&R Violations

Violation Code	Contaminant Code	Violation Description
03	1011	Failure to resume routine monthly bromate monitoring if RAA is ≥ 0.0025 mg/L for reduced quarterly monitoring or if system fails to analyze samples using Method 317.0 Revision 2.0, 326.0, or 321.8.

Example System Description - System G

System G is a small Subpart H CWS that serves 4,700 people, uses surface water, and treats with a softening plant. Both ozone and chlorine are used as disinfectants. System G utilizes one plant and one source. System G wishes to qualify for a reduced bromate monitoring schedule, reducing monitoring from once monthly at the entry point to the distribution system to once quarterly at the entry point to the distribution system.

System G Summary

Population Served: 4,700
Source: Surface water
Treatment: Softening plant, ozone, chlorine

The Stage 1 DBPR includes a requirement for all systems using ozone to monitor for bromate at the entrance to the distribution system from each ozone plant. In order to qualify for reduced bromate monitoring under the Stage 1 DBPR and for the first 36 months after promulgating the Stage 2 DBPR, System G must conduct monthly bromide monitoring in the source water. Since System G would like to qualify for reduced monitoring, the qualified operator collects one sample for bromate from the entrance to the distribution system on a monthly frequency and one sample for bromide from the source water on a monthly frequency. To qualify for reduced bromate monitoring under the Stage 1 DBPR and for the first 36 months after promulgating the Stage 2 DBPR, the RAA for bromide in source water must be less than 0.05 mg/L. After [insert date 36 months after rule publication], the RAA for bromate must be less than 0.0025 mg/L and samples must be analyzed using Method 317.0 Revision 2.0, 326.0, or 321.8 to qualify for reduced monitoring. If the samples are not analyzed using one of these analytical methods, the system must resume or continue monthly bromate monitoring, using one of the above analytical methods, until the system qualifies for reduced monitoring.

If a PWS has qualified for reduced monitoring before [insert date 36 months after rule publication], the system may remain on reduced monitoring as long as the bromate RAA of quarterly samples is 0.0025 mg/L or less, using Method 317.0 Revision 2.0, 326.0, or 321.8. If the RAA of bromate is greater than 0.0025 mg/L, the system no longer qualifies for reduced bromate monitoring and is required to resume routine monitoring for bromate.

At the beginning of 200X-1, 24 months after promulgating the Stage 2 DBPR, System G's qualified operator reviews bromide source water monitoring for the previous year to determine whether the system qualifies for a reduced bromate monitoring frequency. Based on the sample results System G is qualified to go on to for reduced bromate monitoring since the RAA for bromide source water monitoring

collected in 200X-2 is less than 0.05 mg/L. System G conducts quarterly bromate monitoring for the year of 200X-1.

At the beginning of 200X (36 months after promulgating the Stage 2 DBPR), System G calculates the RAA for bromate based on data collected the previous year and compares it to 0.0025 mg/L. If the annual average bromate concentration is less than 0.0025 mg/L, then the operator may continue to conduct quarterly bromate monitoring. Although the RAA for bromate is less than 0.0025 mg/L, the operator realizes that the bromate samples collected in 200X-1 were not analyzed using Method 317.0 Revision 2.0, 326.0, or 321.8. Therefore, the operator returns to routine monitoring for bromate in 200X and collects and analyzes one bromate sample using Method 326.0 from the entry point to the distribution system once a month, according to the requirements of the system's monitoring plan. The operator records the results on the bromate monitoring form and, after 1 year of monthly monitoring for bromate, determines that the RAA for bromate is less than 0.0025 mg/L. Since System G qualifies for reduced monitoring, the system collects quarterly bromate samples during the year 200X+1.

Example #13 - M&R for Bromate Violation

Table 2-30 summarizes the System G source water bromide and treated water bromate monitoring results.

Table 2-30. System G Bromide and Bromate Monitoring Results

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	RAA
Bromide Source Water Monitoring Results (mg/L)													
200X-2	0.020	0.010	0.040	0.080	0.060	0.100	0.080	0.050	0.020	0.010	0.040	0.020	0.044
Bromate Monitoring Results (mg/L)													
200X-2	0.006	0.004	0.005	0.002	0.003	0.004	0.002	0.001	0.003	0.002	0.004	0.002	0.003
200X-1			0.001			0.002			0.003			0.001	0.002
200X	0.002	0.001	0.003	0.001	0.001	0.001	0.002	0.001	0.001	0.002	0.003	0.002	0.002
200X+1			0.002			0.008	NS	NS	0.005	NS	NS	0.003	0.005

RAA = Running Annual Arithmetic Average

NS = No samples taken after system should have returned to routine monthly monitoring

Example #13 Decision

System G is not eligible for a reduction in monitoring frequency after the month of June 200X+1 because the RAA of bromate is greater than 0.0025 mg/L for the four most recent quarters. After June 200X+1, the RAA of samples collected from third quarter 200X to second quarter 200X+1 equals 0.0026 mg/L. Therefore, after the second quarterly sample in 200X+1, System G no longer qualifies for reduced quarterly bromate monitoring. Beginning in July, System G is required to begin monitoring monthly for bromate. Since System G did not collect another bromate sample until September 200X+1, System G is in violation of the requirement to return to routine monitoring once the RAA of bromate samples are greater than 0.0025 mg/L (SDWIS Reporting Code 03/1011).

Public Notice Requirements

System G must provide Tier 3 public notice of the M&R violation according to the requirements of 40 CFR 141.201.

System Reporting Requirements

System G must routinely report the information summarized in Table 2-6 in addition to all required reporting information discussed in the *Primacy Agency Data Entry Instructions, with Examples, for Stage 1 Disinfectants and Disinfection Byproducts Rule* (EPA 816-R-02-012, January 2003) to the primacy agency.

Primacy Agency to SDWIS/FED Reporting

Bromate M&R violations are reported quarterly to SDWIS. The report of a violation begins on the first day of the quarter in which the system fails to collect, analyze, or report one or more of the required samples. The violation end date is the last day of the quarter in which the LRAA calculation period contains one or more samples that the system fails to collect, analyze, or report. This PWS failed to take the required bromate samples in July 200X+1, an M&R violation. The violation has a begin date of July 1, 200X+1, and an end date of June 30, 200X+2. In addition, the PWS failed to take the required samples in August, October, and November 200X+1, resulting in additional M&R violations. All violations should be reported to EPA. The appropriate SDWIS/FED bromate M&R violation data elements and individual DTF transactions for the third quarter of 200X+1 are listed below in Table 2-31.

Table 2-31. Bromate M&R Violation Data Element Table and DTF Transactions

Data Elements:

<u>Number</u>	<u>Name</u>	
C0101	PWSID	<i>Qualifier 1</i>
C1101	Violation ID	<i>Qualifier 2</i>
C1103	Contaminant Code	1011
C1105	Violation Type Code	03
C1107	Compliance Period Begin Date	
C1109	Compliance Period End Date	<i>Last day of quarter in which the LRAA calculation period contains one or more missed samples</i>
C1131	Major Violation Flag	"N"

DTF Transactions:

1-2	3-11	12-18	19-25	26	27-31	32-71	72-74	75-80
D1	GA1234579	0400001		I	C1103	1011		
D1	GA1234579	0400001		I	C1105	03		
D1	GA1234579	0400001		I	C1107	200X+10701		
D1	GA1234579	0400001		I	C1109	200X+20630		
D1	GA1234579	0400001		I	C1131	N		

2.3 Recordkeeping Violations

Recordkeeping violations are reported for water systems failing to maintain records of microbiological and turbidity analyses and copies of monitoring plans. Table 2-32 presents a summary of all recordkeeping violation reporting codes for the Stage 2 DBPR.

Table 2-32. SDWIS/FED Codes for Recordkeeping Under the Stage 2 DBPR

Violation Code	Contaminant Code	Recordkeeping Violation
09	DBP2	Failure to maintain records of microbiological and turbidity analyses.
09	DBP2	Failure to maintain copies of monitoring plans.

2.3.1 Type 09/DBP2: Failure to Maintain Copies of Monitoring Plan Recordkeeping Violation

Cross-reference to Stage 2 DBPR Implementation Guidance:

Section 1, page 39

Section 5, page 97

Cross-reference to Rule:

Proposed §141.33(f)

Table 2-33. Monitoring Plans – Recordkeeping Violation

Violation Code	Contaminant Code	Violation Description
09	DBP2	Failure to maintain copies of monitoring plans.

Example System Description - System H

System H is a small water system serving 5,200 people that uses surface water and treats with a softening plant. Chlorine is used as a disinfectant.

System H Summary

Population Served: 5,200
Source: Surface water
Treatment: Softening plant, chlorine

Example #14 - Failure to Maintain Copies of Monitoring Plans

System H, which is not required to monitor for *Cryptosporidium* under the LT2ESWTR, revises its monitoring plan developed under the Stage 1 DBPR on January 1, 200X [insert date 90 months after publication]. The system keeps a copy of its monitoring plan until January 1, 200Y [insert date 126 months after publication] and then discards it.

Example #14 Decision

System H has committed a recordkeeping violation. Systems are required to keep a copy of their revised monitoring plans for 36 months after modifying them, or for the amount of time that analyses are required to be kept under proposed §141.33(a), whichever is longer. Since proposed §141.33(a) requires systems to keep chemical analyses for 10 years, which is longer than 3 years, System H must keep a copy of its revised monitoring plan until January 1, 200Z [insert date 210 months after publication].

Public Notice Requirements

System H must provide Tier 3 public notice of this violation in accordance with the provisions of 40 CFR 141.201.

System Reporting Requirements

There are no system reporting requirements for this situation.

Primacy Agency to SDWIS/FED Reporting

The appropriate SDWIS/FED monitoring plan recordkeeping violation data elements and DTF transactions are listed below in Table 2-34 for SDWIS Reporting Code **09/DBP2**.

Table 2-34. Monitoring Plan Recordkeeping Violation Data Element Table and DTF Transactions

Data Elements:

<u>Number</u>	<u>Name</u>	<u>Value or Comment</u>
C0101	PWSID	<i>Qualifier 1</i>
C1101	Violation ID	<i>Qualifier 2</i>
C1103	Contaminant Code	DBP2
C1105	Violation Type Code	09
C1107	Compliance Period Begin Date	
C1109	Compliance Period End Date	<i>3 years after modification of plans or time period states in 141.33(a), whichever is longer</i>

DTF Transactions:

1-2	3-11	12-18	19-25	26	27-31	32-71	72-74	75-80
D1	GA1234579	0400001		I	C1103	DBP2		
D1	GA1234579	0400001		I	C1105	09		
D1	GA1234579	0400001		I	C1107	200X+126 0101		
D1	GA1234579	0400001		I	C1109	200X+210 0101		

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Section 3

General SDWIS Reporting

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3.1 Federally Reported Violations

Under SDWIS/FED reporting, primacy agencies only report when violations occur. In the interest of reducing the reporting burden on primacy agencies, EPA has limited the number and type of violations to be reported to SDWIS/FED. However, PWSs must still keep records and report all required information to the primacy agency. Any violation of the rule, whether included in Table 2-1a or not, is a basis for a primacy agency or federal enforcement action.

Tables 2-1a and 2-1b in Section 2 of this document provide reporting information specific to the Stage 2 DBPR and federally reportable violations for the Stage 2 DBPR. These violations are listed by contaminant and violation type. The table includes the SDWIS/FED reporting codes, the regulatory citation, system type affected, a detailed description of the violation, and the initial compliance date. This table will contribute to a user's understanding of those violations listed in SDWIS.

SDWIS/FED Reporting

The SDWIS/FED reporting requirements apply to systems of all types and sizes. Although the method of determining a violation may differ between systems, a particular violation code will define the same type of violation at all systems.

Primacy agencies are to report SDWIS/FED data via XML or DTF. OGWDW is currently defining its SDWIS XML Schema. Once the SDWIS/FED schema is available, this document will be updated to include XML reporting formats. Table 3-1 depicts the format of a DTF transaction.

Table 3-1. DTF and Transaction Format

1-2	3-11	12-18	19-25	26	27-31	32-71	72-74	75-80
Form ID	Qual 1	Qual 2	Qual 3	DIM Code	DE Number	Data Value	Blank	Batch Sequence Number
Form ID	An identification number that allows input of certain types of data.							
Qualifier 1	The PWSID of the Water System to be inserted, modified, or deleted.							
Qualifier 2	Contains an ID that further defines what record is to be inserted, modified, or deleted. Qualifier 2 contains the source/entity ID when reporting facilities and treatments, the violation ID when reporting violations, and the enforcement ID when reporting enforcement actions.							
Qualifier 3	Contains an ID that further defines what record is to be inserted, modified, or deleted. Qualifier 3 contains the treatment ID when reporting treatments.							
DIM Code	D = Delete I = Insert M = Modify							
DE (Data Element) Number	The DTF data element number (e.g., CO483, C1105) identifying a specific element to be inserted, modified, or deleted.							
Data Value	The data value associated with the data element number.							
Batch Sequence Number	The number assigned to the group of data being submitted. Used to sequence processing against the database, if required.							

Section 4

Additional Sources of Information

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4.1 SDWIS/FED Resources

SDWIS/Fed Data Entry Instructions (April 2003)

This document provides details for the creation of all parts of DTF transactions. This document is available on the SDWIS/FED Web site: <http://www.epa.gov/safewater/sdwisfed/documentation.html>.

SDWIS/FED Online Data Dictionary (January 2003)

This application provides details on every table and field contained in SDWIS/FED, including definitions, permitted values, names, and editing requirements. This document is available on the SDWIS/FED Web site: <http://www.epa.gov/safewater/sdwisfed/documentation.html>.

Actions DTF (November 2002)

Actions DTF was developed to assist state and regional PC users in the creation of a data file containing information on violation or enforcement actions that can be input to the SDWIS/FED System. The software creates records in DTF, which is required to enter data into SDWIS/FED.

Actions DTF is a Microsoft™ (MS) Access® Windows application that can be installed on a personal computer. The software provides data entry capabilities for SDWIS/FED. In order to facilitate input keyed directly from data entry forms, Actions DTF screens mimic the Data Capture Forms used in the *SDWIS/FED Data Entry Instructions*.

4.2 Technical Information Available on the Stage 2 DBPR

A series of guidance manuals support the Stage 2 DBPR. The manuals will aid EPA, primacy agencies, and affected PWSs in implementing this rule and will help ensure that implementation among these groups is consistent. Summaries of the manuals and information on how to obtain them are provided below.

Stage 2 Disinfectants and Disinfection Byproducts Rule Implementation Guidance (EPA XXX-R-03-XXX, Date)

Objective: To provide guidance to EPA regions and states exercising primary enforcement responsibility under the SDWA concerning how EPA interprets the Stage 2 DBPR under SDWA. It also provides guidance to the public and the regulated community on how EPA intends to exercise its discretion in implementing the statute and regulations. The guidance is designed to implement national policy regarding the Stage 2 DBPR.

Contents: The guidance manual includes five (5) sections: 1) rule requirements, 2) resources and other supporting information, 3) state implementation, 4) state primacy revision applications, and 5) SDWIS violations, reporting, and significant noncompliance. It includes six (6) appendices, including a Primacy Revision Crosswalk, Sample Primacy Revision Application Extension Agreement, guidance on audit law issues, a Stage 2 DBPR plain English Summary, a copy of the Stage 2 DBPR language, and sample Stage 2 DBPR notification letters.

Draft Initial Distribution System Evaluation (IDSE) Guidance Manual (EPA XXX-X-XX-XXX, Date)

Objective: To provide guidance on the conduct of the IDSE, including selection of monitoring sites, alternatives to monitoring, waivers, development of monitoring schedules, and preparation of the IDSE report.

Contents: The guidance manual includes information on requirements for systems not conducting an IDSE and standard monitoring program requirements for site selection, sampling, and reporting. Sample standard monitoring program and site-specific study IDSE reports are provided in the appendices, as well as TTHM and HAA5 sampling protocols and information on simulated distribution system tests.

Draft Significant Excursions Guidance Manual (EPA 815-D-03-004, July 2003)

Objective: To provide guidance on possible approaches to identifying significant excursions, conducting a significant excursion evaluation, and operational changes that systems may make to prevent recurrence of significant excursions.

Contents: The guidance manual discusses causes of significant excursions, how to document significant excursions, and various best management practices and distribution system improvements to reduce DBP concentrations.

Draft Small System Compliance Document (EPA XXX-X-XX-XXX, Date)

Objective: To identify compliance and operational issues that may arise as small systems comply with the Stage 2 DBPR.

Contents: The guidance manual includes an overview of the Stage 2 rule, compliance timelines, new requirements for consecutive systems, and treatment methods that can be used to reduce DBPs. The manual also lays out detailed requirements for conducting initial distribution system evaluations, compliance monitoring, and significant excursion evaluations for small systems.

Draft Consecutive System Guidance Manual (EPA XXX-X-XX-XXX, Date)

Objective: To provide guidance on complying with Stage 2 DBPR monitoring requirements and MCLs to systems that purchase finished water.

Contents: TBD

Draft Simultaneous Compliance Guidance Manual (EPA XXX-X-XX-XXX, Date)

Objective: To provide guidance on how to avoid and resolve various potential conflicts that may arise as systems comply with the Stage 2 DBPR and the LT2ESWTR.

Contents: The manual provides guidance on how to address potential compliance issues between the LT2ESWTR and the Stage 2 DBPR, as well as potential compliance issues between LT2ESWTR and Stage 2 DBPR and other rules (e.g., the Lead and Copper Rule, the

Total Coliform Rule, The Arsenic in Drinking Water Rule). Operational issues related to technologies used for Stage 2 DBPR and LT2ESWTR compliance are also addressed in the manual.

Alternative Disinfectants and Oxidants Guidance Manual (EPA 815-R-99-014, April 1999)

Objective: To provide technical data and engineering information on disinfectants and oxidants that are not as commonly used as chlorine so that systems can evaluate their options for developing disinfection schemes to control water quality problems, such as zebra mussels and Asiatic clams, and oxidation to control water quality problems associated with iron and manganese.

Contents: The manual discusses six disinfectants and oxidants: ozone, chlorine dioxide, potassium permanganate, chloramines, ozone/hydrogen peroxide combinations, and UV light. A decision tree is provided to assist in evaluating which disinfectant, or disinfectants, is most appropriate given certain site-specific conditions (e.g., water quality conditions, existing treatment, and operator skill). The manual also contains a summary of existing alternative disinfectants used in the United States and cost estimates for the use of alternative disinfectants.

Enhanced Coagulation and Enhanced Precipitative Softening Guidance Manual (EPA 815-R-99-012, May 1999)

Objective: To define the treatment technique of enhanced coagulation and enhanced softening to remove natural organic matter, which reacts with disinfectants to form DBPs.

Contents: The manual provides an overview of Stage 1 DBPR, definitions of enhanced coagulation and enhanced precipitative softening, the Step 2 procedure, jar testing, monitoring, reporting, laboratory procedures, secondary effects of enhanced coagulation and enhanced precipitative softening, and implementation of treatability studies. The manual also discusses DBP precursor removal processes and technologies, TOC removal by softening, and coagulant doses for Step 2 testing.

4.3 Other Information Sources

Public Notice Handbook (EPA 816-R-00-010, June 2000)

Objective: To assist water systems in implementing the revised public notification regulation published in the *Federal Register* on May 4, 2000 (65 *FR* 25981). The handbook's purpose is to explain EPA's revised PN Rule and provide specific examples of public notices.

Contents: The manual provides a summary of the PN requirements, and provides detailed examples and explanations of Tier 1, 2, and 3 notice. Templates are provided for specific PN releases, and to address the special needs of NCWSs.

Final Implementation Guidance for the Public Notification Rule (EPA 816-R-01-010, October 2001)

Objective: To assist states in applying for primacy revision for the PN Rule.

Contents: Information on the primacy revision process—the procedures, timeframes, and content for submission of state primacy revision applications—are outlined in the document. The document also includes the Draft Final Version of SDWIS Reporting in the document's Appendix C.

draft

Appendix E

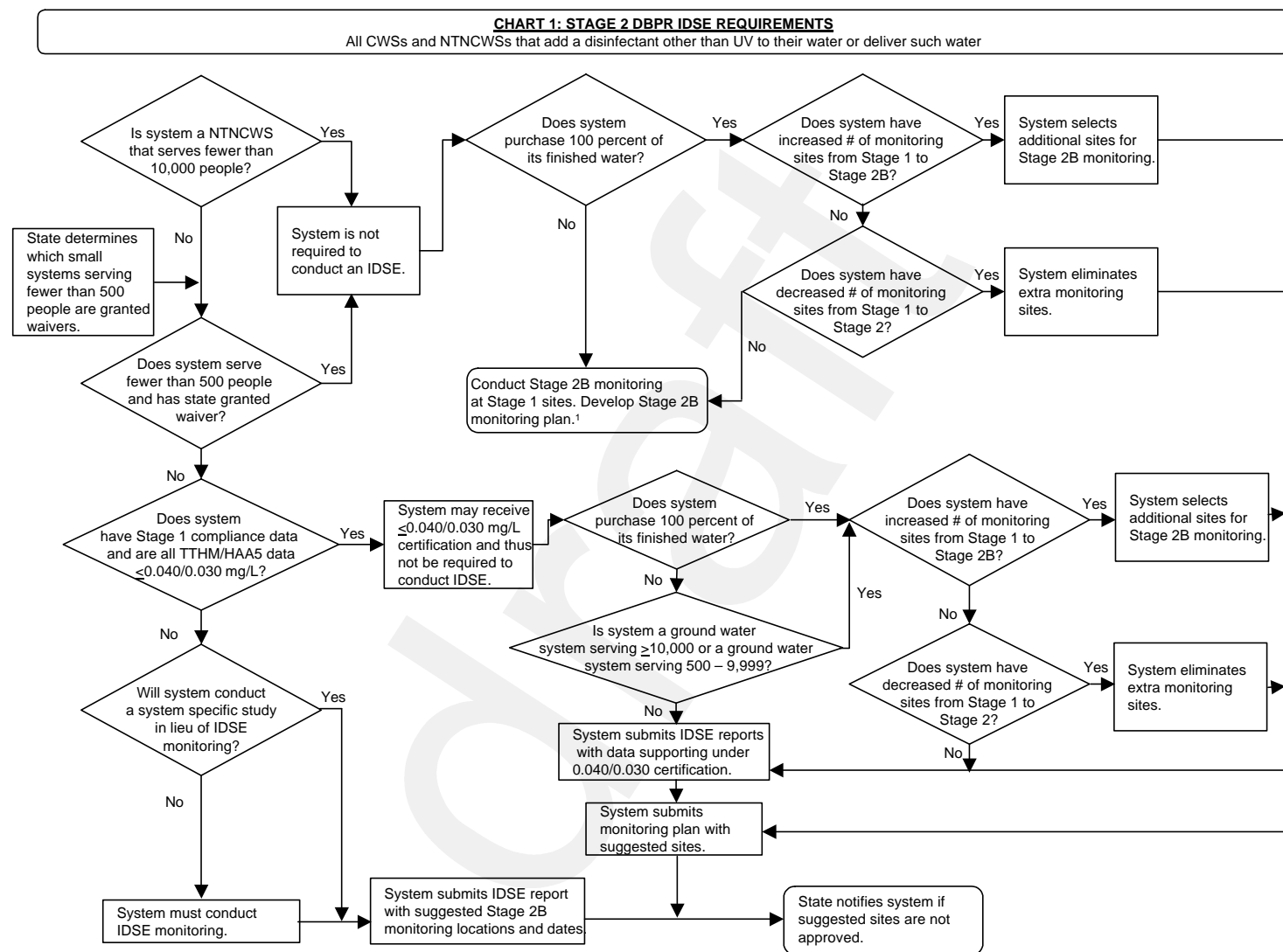
Flowcharts

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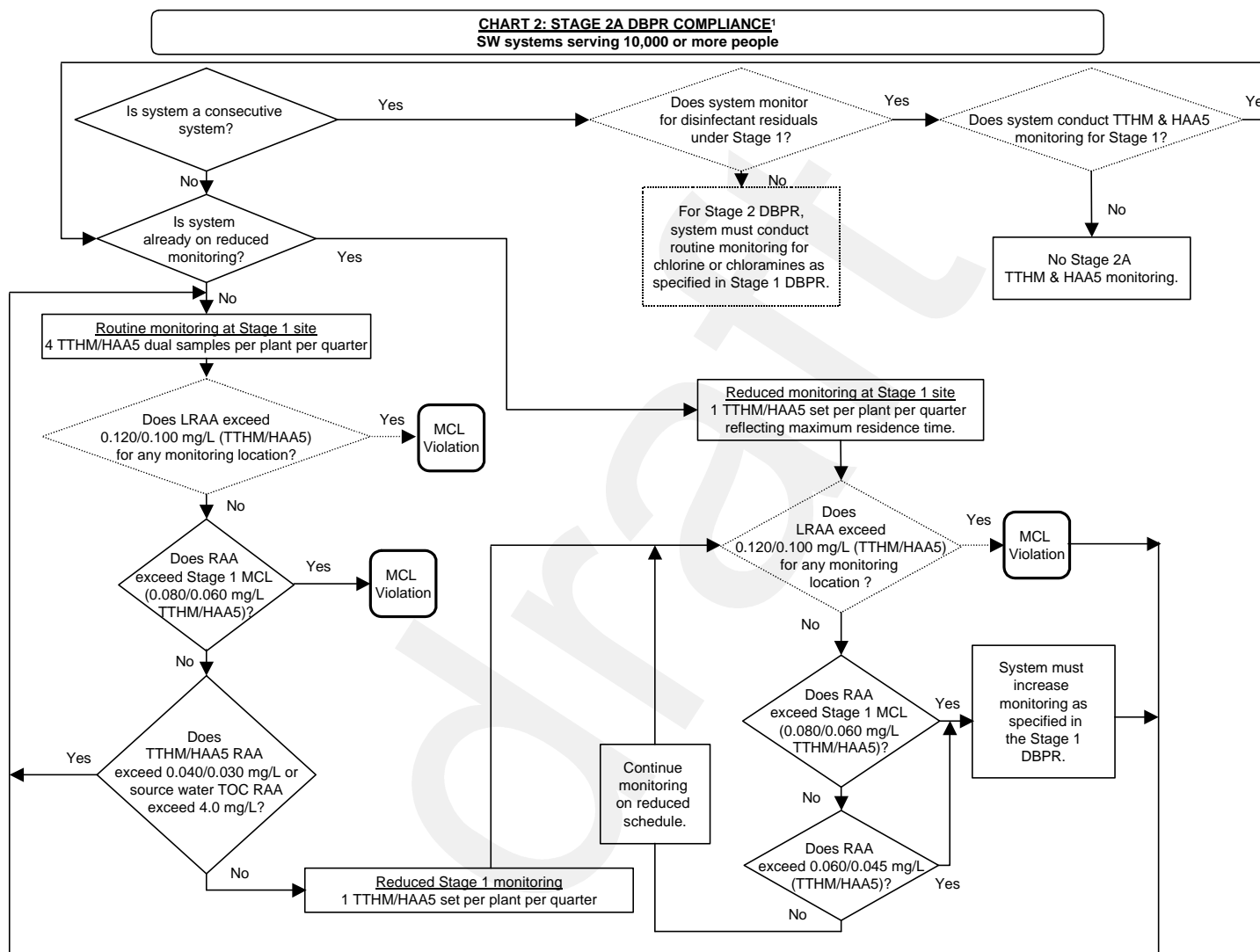
Stage 2 DBPR Flowcharts

Chart 1	Stage 2 DBPR IDSE Requirements
Chart 2	Stage 2A DBPR Compliance for Surface Water Systems serving 10,000 or more people
Chart 3	Stage 2A DBPR Compliance for Ground Water Systems serving 10,000 or more people and Surface Water Systems serving fewer than 10,000 people
Chart 4	Stage 2A DBPR Compliance for Ground Water Systems serving fewer than 10,000 people
Chart 5	Stage 2B DBPR Compliance for Surface Water Systems serving 10,000 or more people
Chart 6	Stage 2B DBPR Compliance for Surface Water Systems serving 500 to 9,999 people
Chart 7	Stage 2B DBPR Compliance for Surface Water Systems serving fewer than 500 people
Chart 8	Stage 2B DBPR Compliance for Ground Water Systems serving 10,000 or more people
Chart 9	Stage 2B DBPR Compliance for Ground Water Systems serving 500 to 9,999 people
Chart 10	Stage 2B DBPR Compliance for Ground Water Systems serving fewer than 500 people

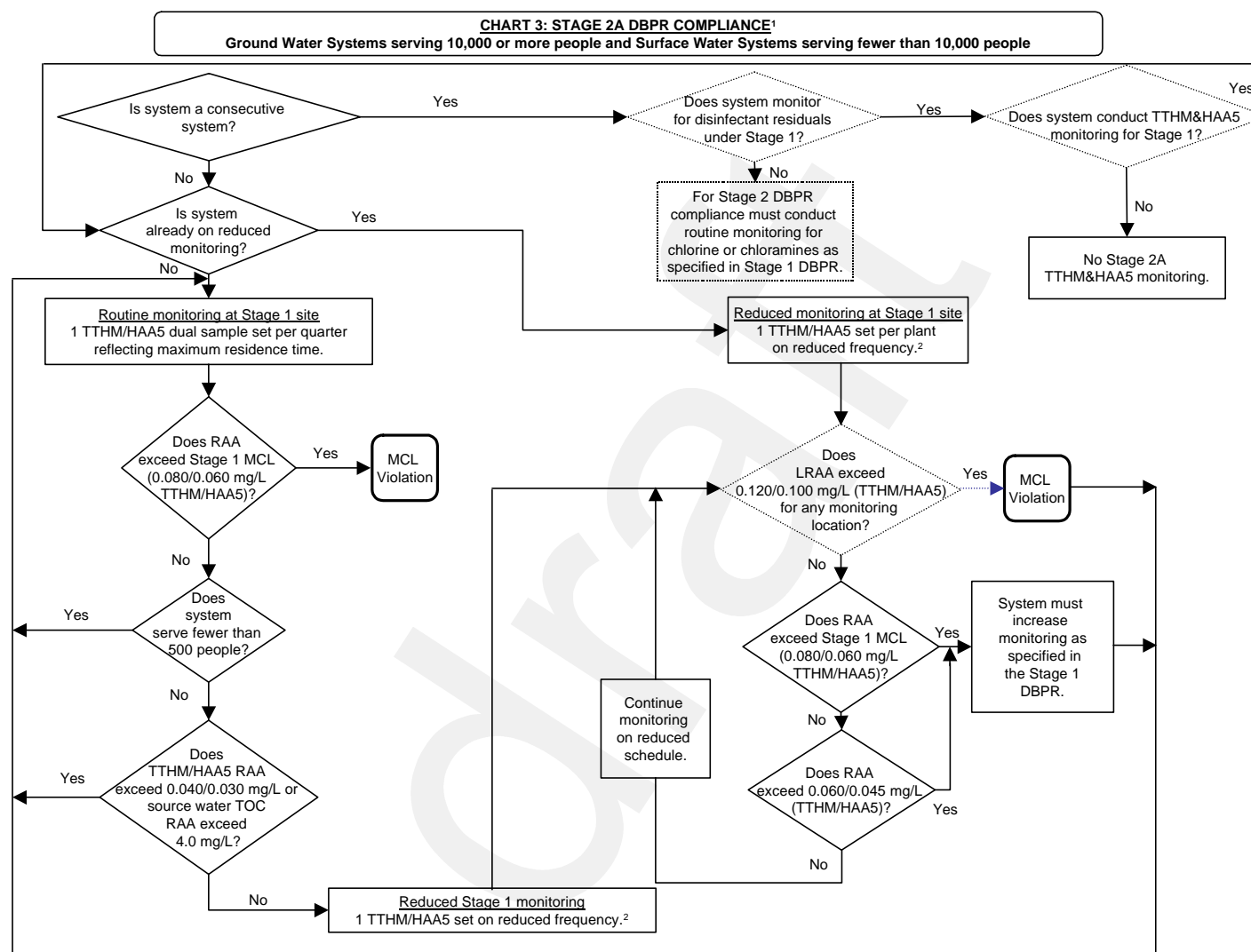
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¹ Surface water systems serving 3,300-9,999 people must submit plan to state.

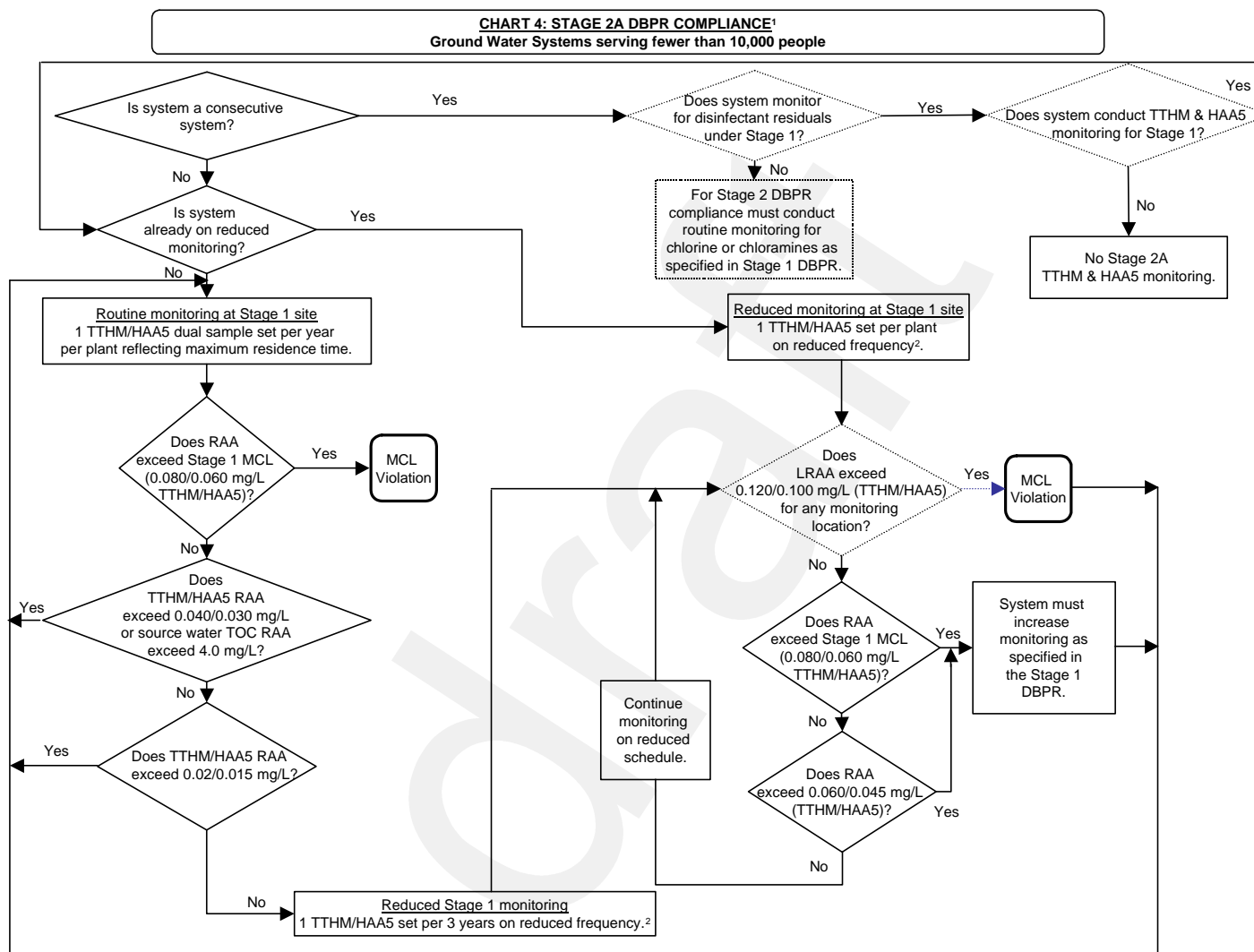


¹ Stage 2A flow steps and Stage 2 DBPR flow steps for consecutive systems shown with dashed lines. All other steps reflect continued compliance with Stage 1 DBPR requirements.



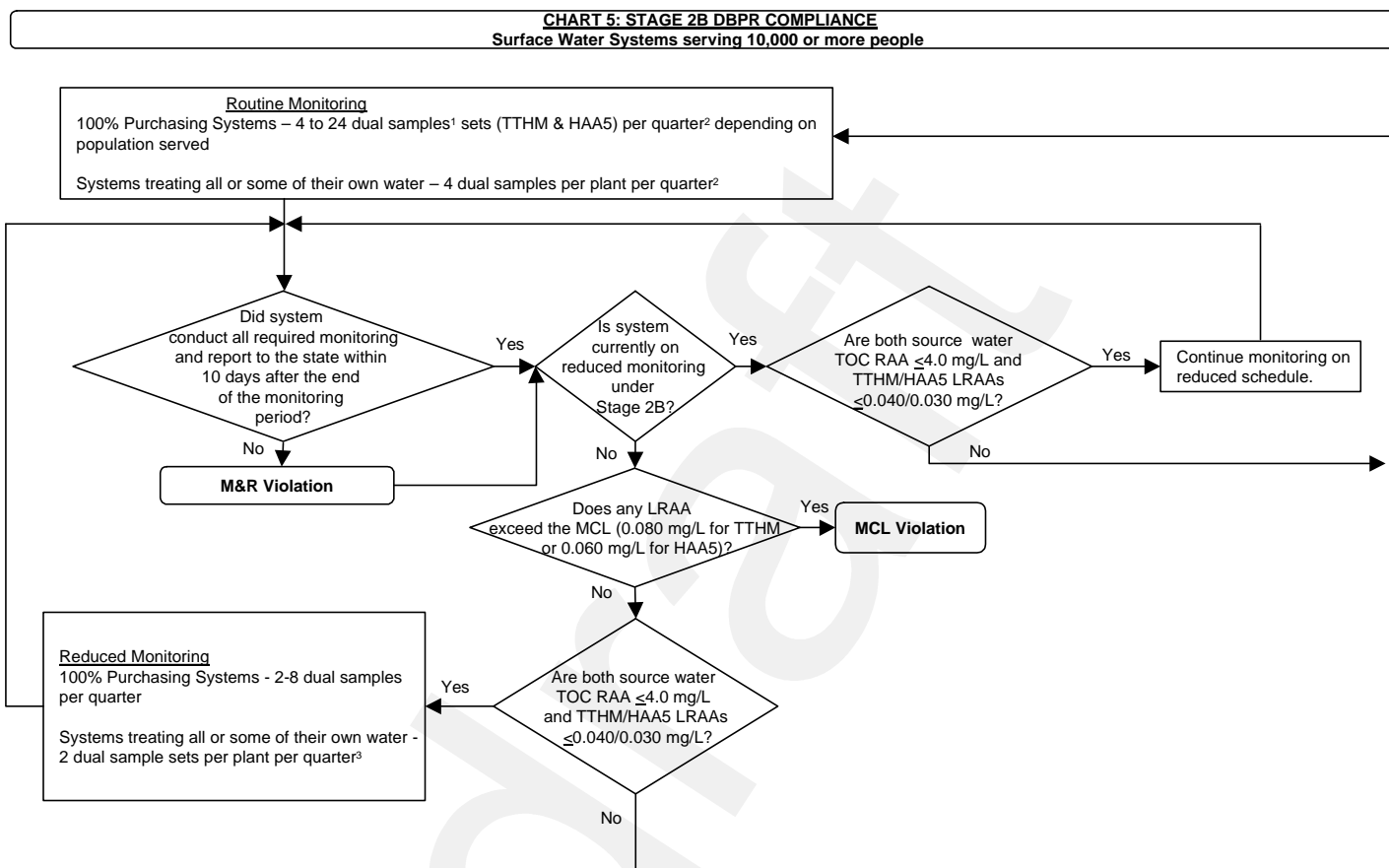
¹ Stage 2A flow steps and Stage 2 DBPR flow steps for consecutive systems shown with dashed lines. All other steps reflect continued compliance with Stage 1 DBPR requirements.

² Frequency of monitoring varies with system size and source type.



¹ Stage 2A flow steps and Stage 2 DBPR flow steps for consecutive systems shown with dashed lines. All other steps reflect continued compliance with Stage 1 DBPR requirements.

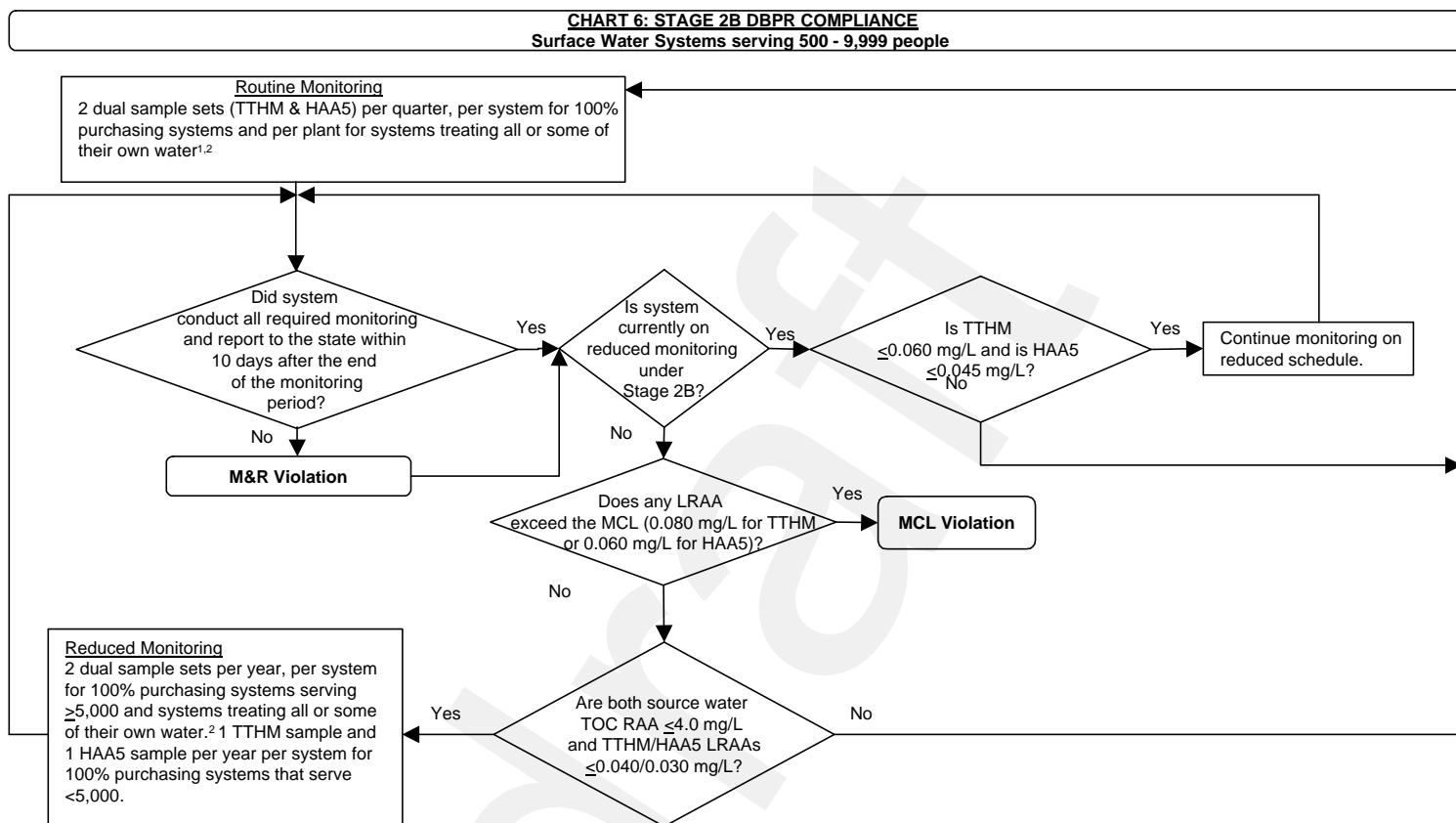
² Frequency of monitoring varies with system size and source type.



¹ Number of dual samples dependent on population served.

² One quarterly set must be taken during the peak month of historical DBP concentrations.

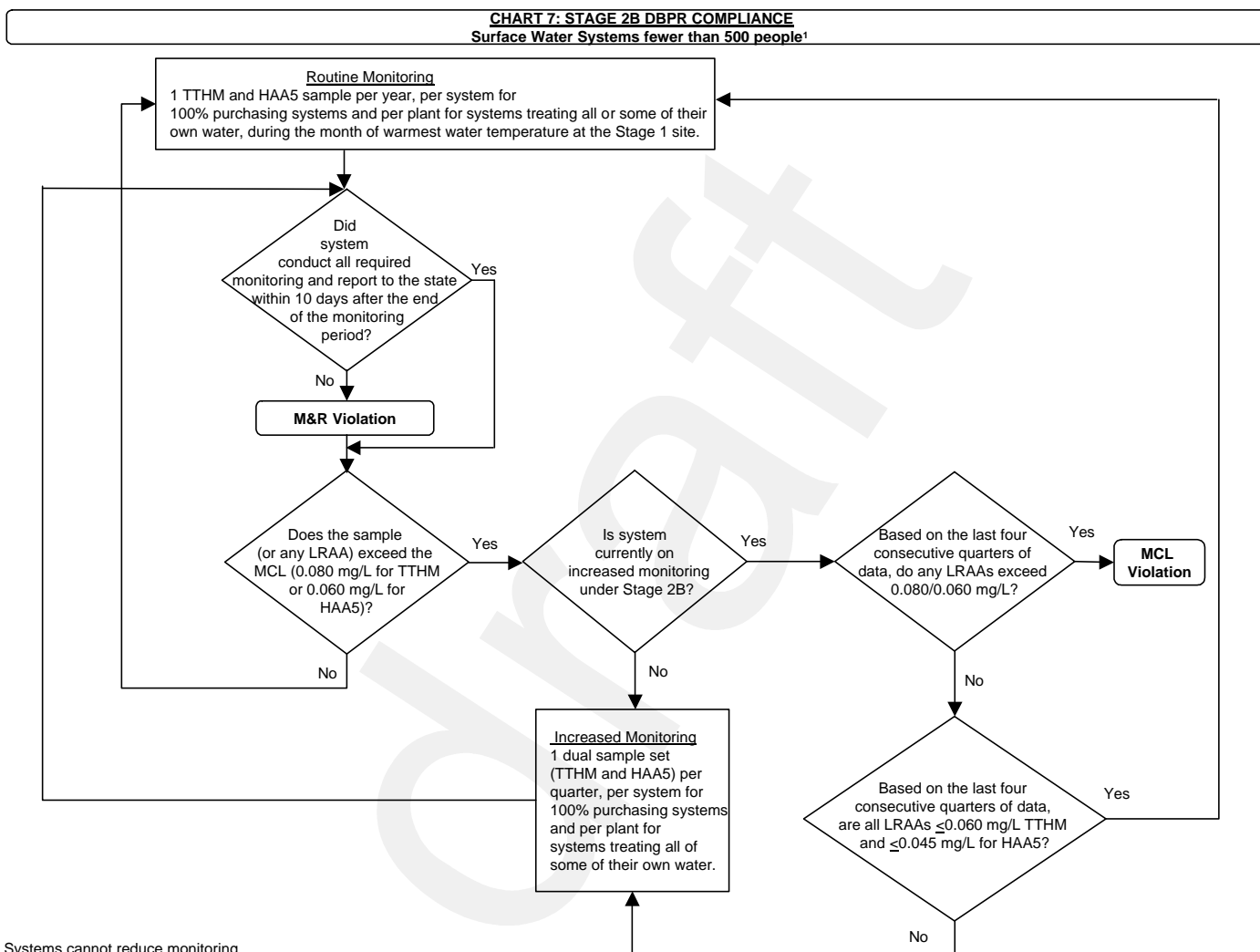
³ Sample sets divided evenly between locations with the highest TTHM single measurement and the locations with the highest HAA5 single measurement.



¹ One quarterly set must be taken during the peak historical month for DBP concentrations.

² During the months when highest measurements occurred at each location.

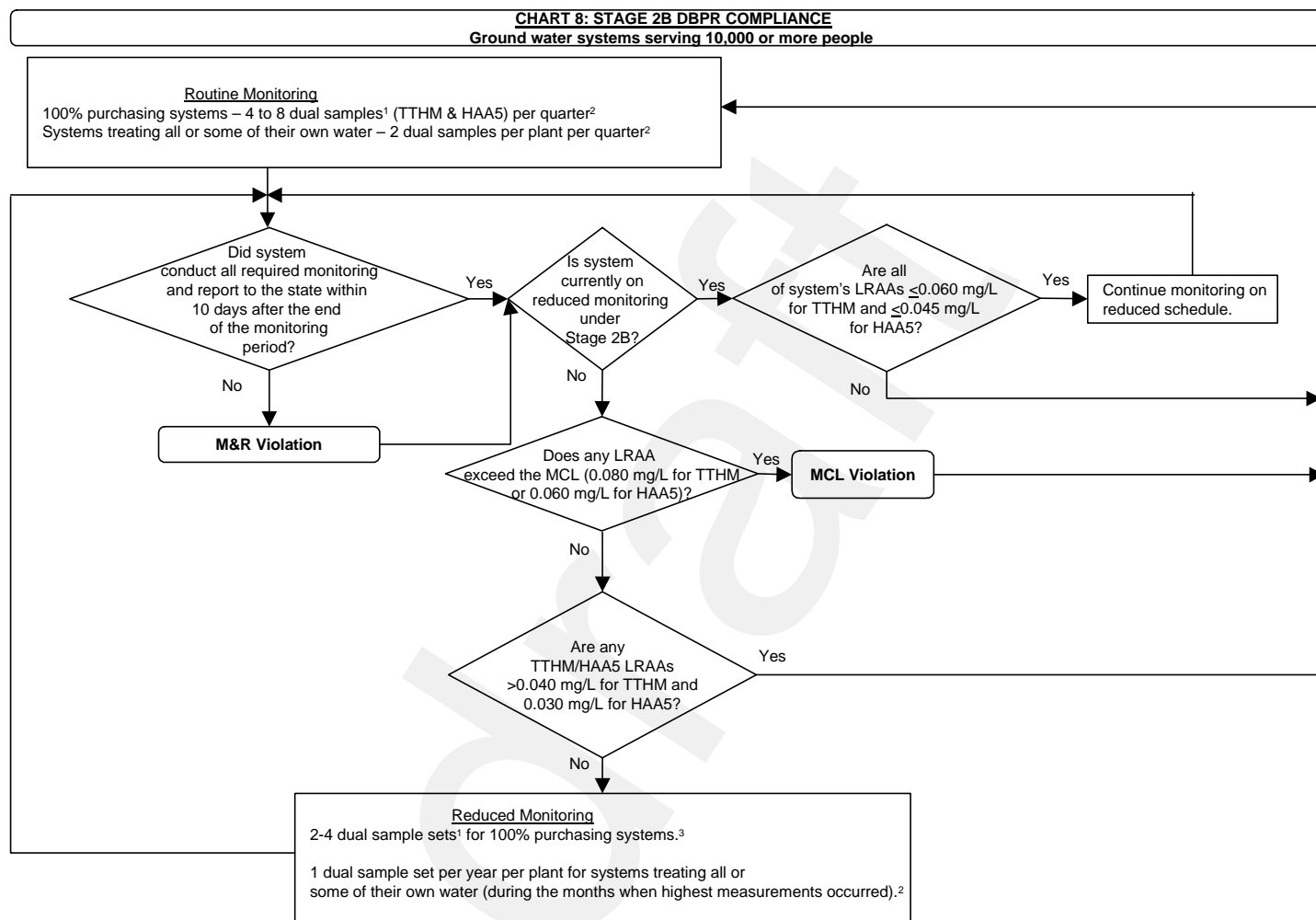
³ If the highest TTHM LRAA and highest HAA5 LRAA occur at the same location, then system may monitor at that one site instead of two sites.



¹ Systems cannot reduce monitoring.

² Samples must be taken during the peak historical month for DBP concentrations.

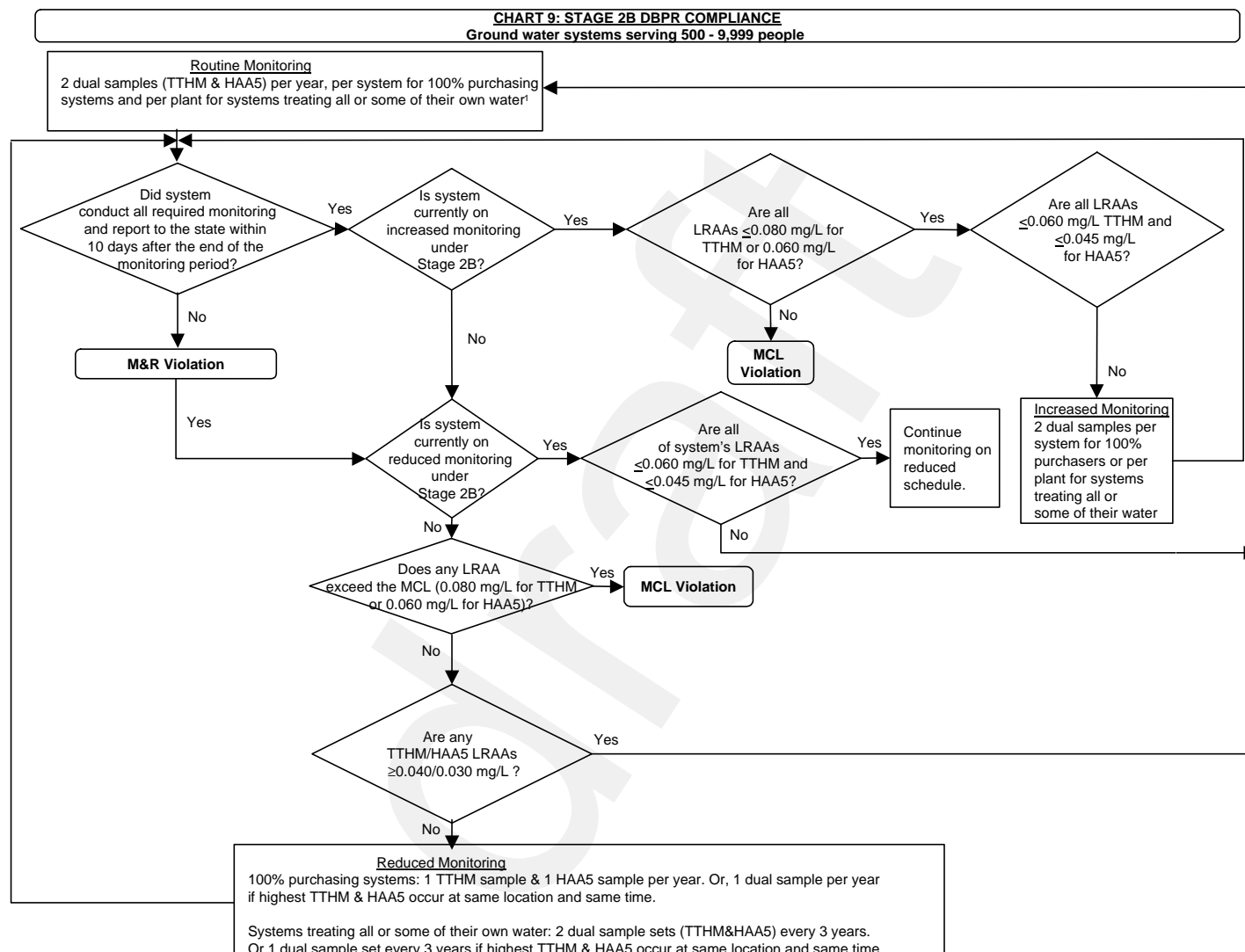
³ Systems may sample for both TTHM and HAA5 at one location only if both TTHM and HAA5 are both highest at that location. If highs are at different locations, the system must sample for TTHM only at the high TTHM location and HAA5 only at the high HAA5 location.



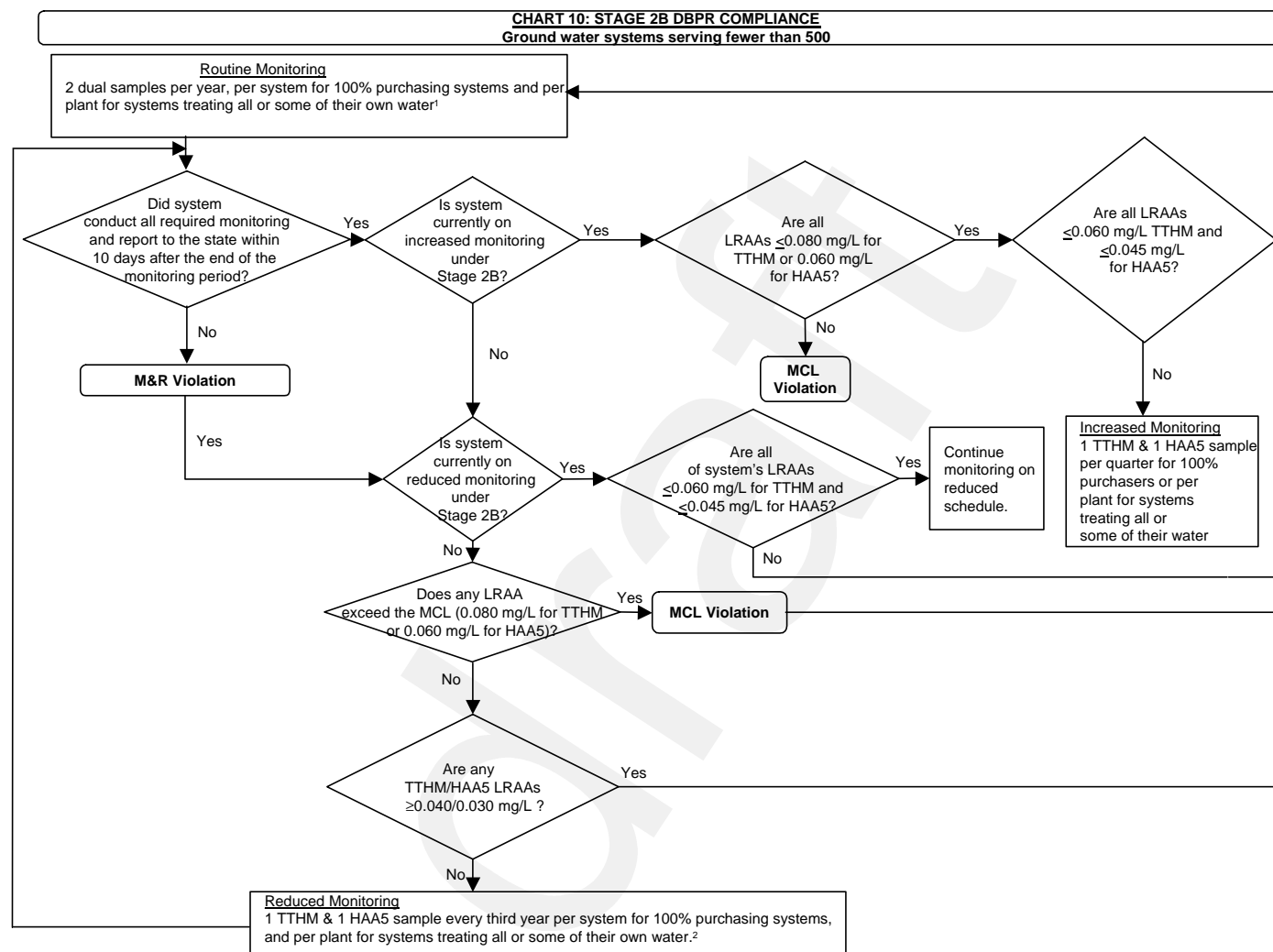
¹ Number of dual samples dependent on population served.

² One set must be taken during the peak historical month for DBP concentrations.

³ Frequency depends on population served.



¹ Based on last four consecutive quarters of data (MCL violation does not occur until at least four quarters of data are available or an LRAA will exceed the MCL based on less than four quarters of data).



¹ Based on last four consecutive quarters of data (MCL violation does not occur until at least four quarters of data are available or an LRAA will exceed the MCL based on less than four quarters of data).

² During the months when highest measurements occurred.